

FIG. 1

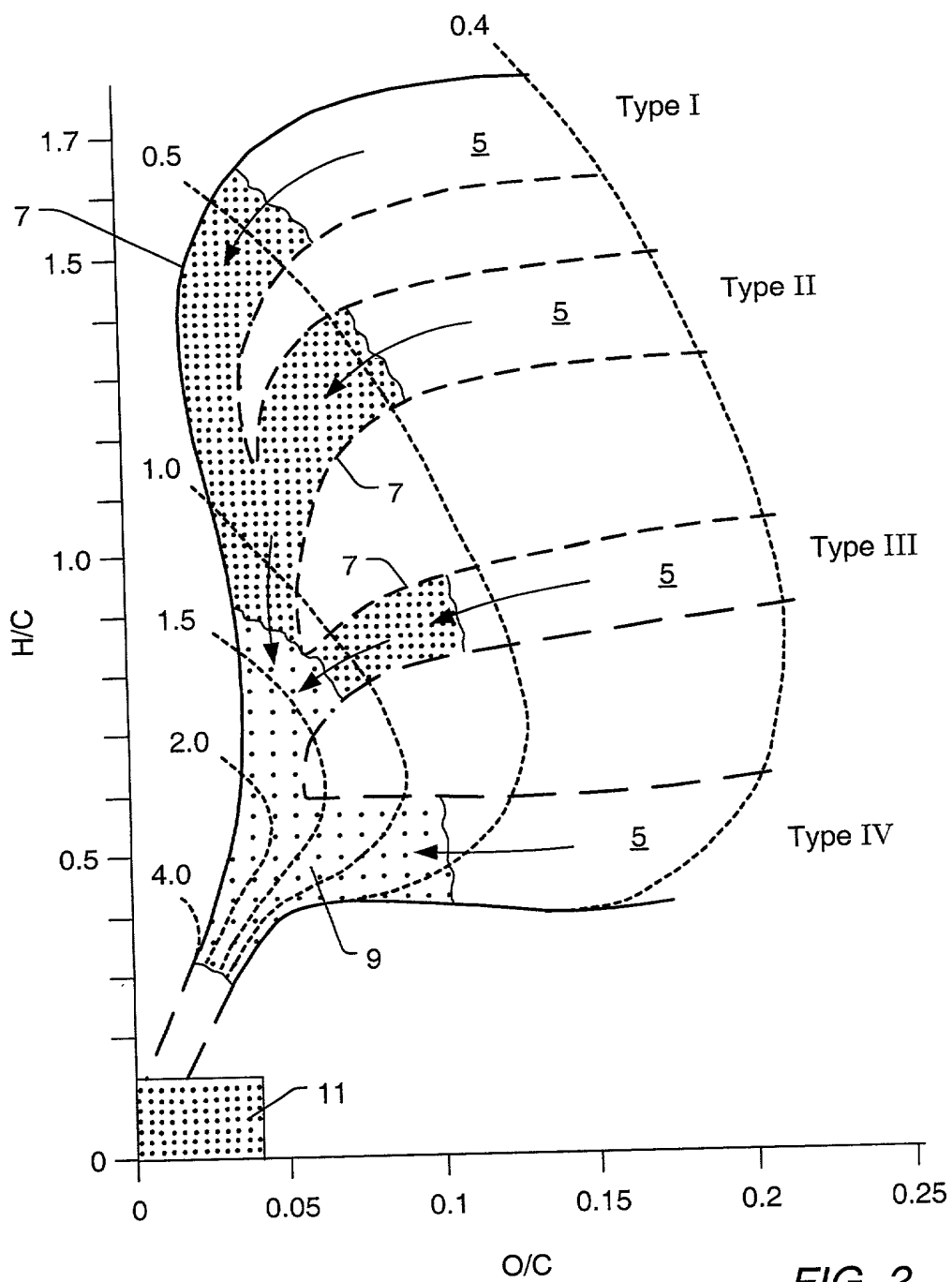


FIG. 2

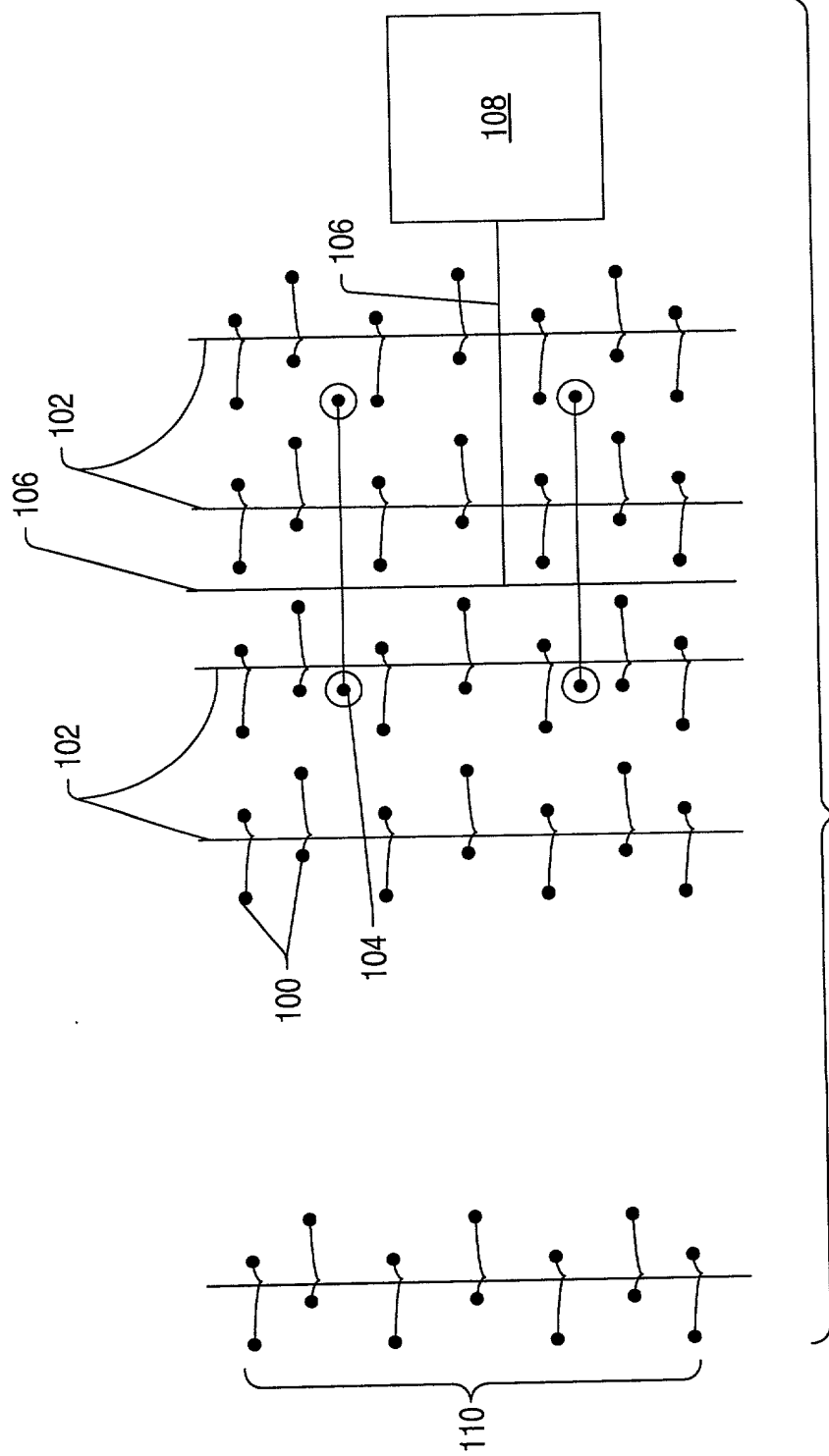


FIG. 3

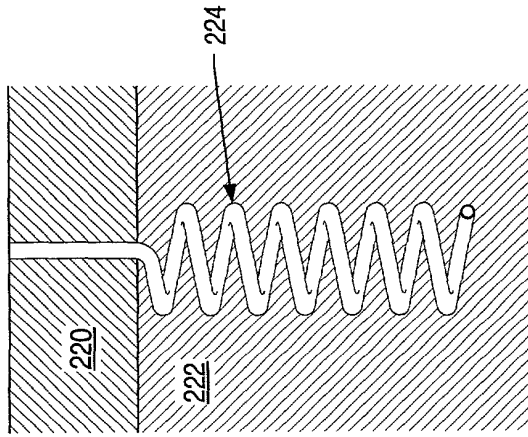


FIG. 3a

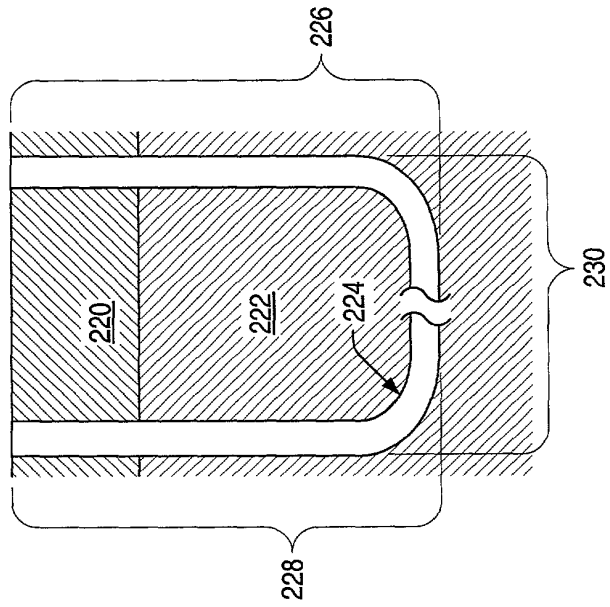


FIG. 3b

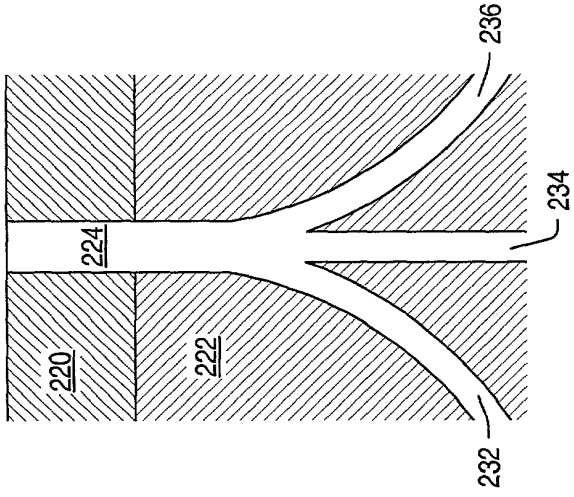


FIG. 3c

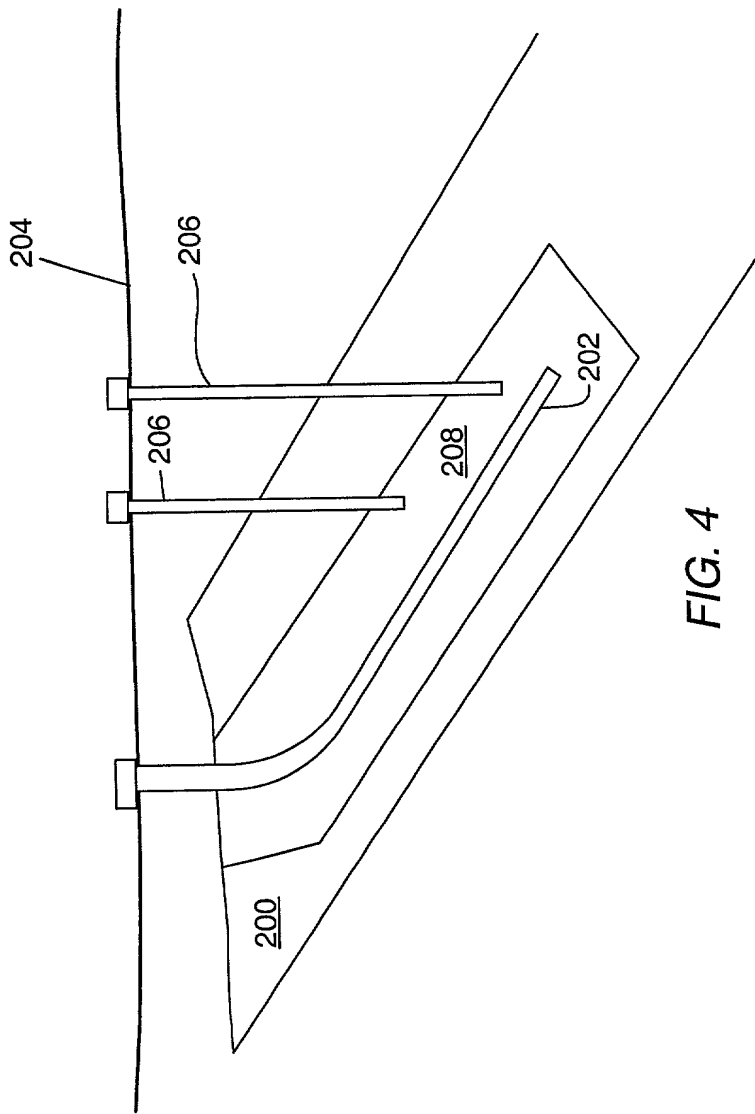
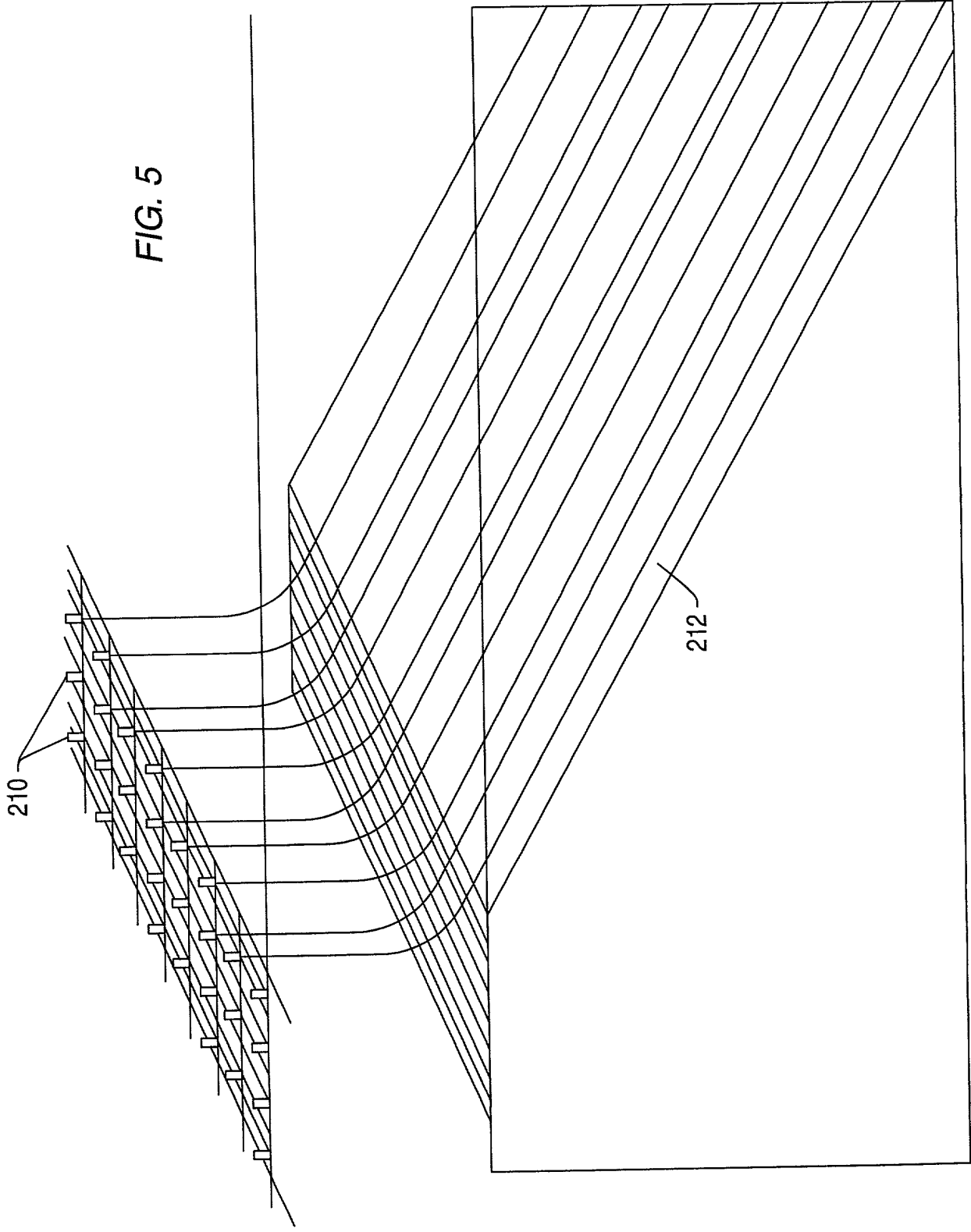


FIG. 4



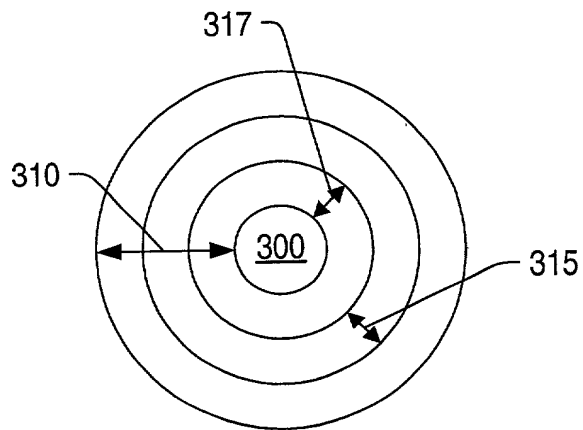


FIG. 6

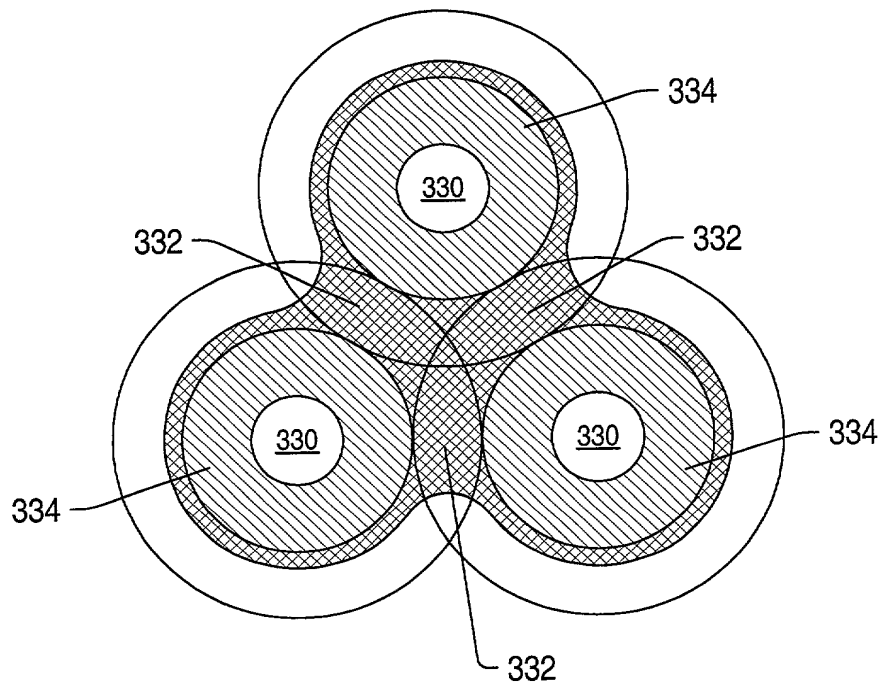


FIG. 7

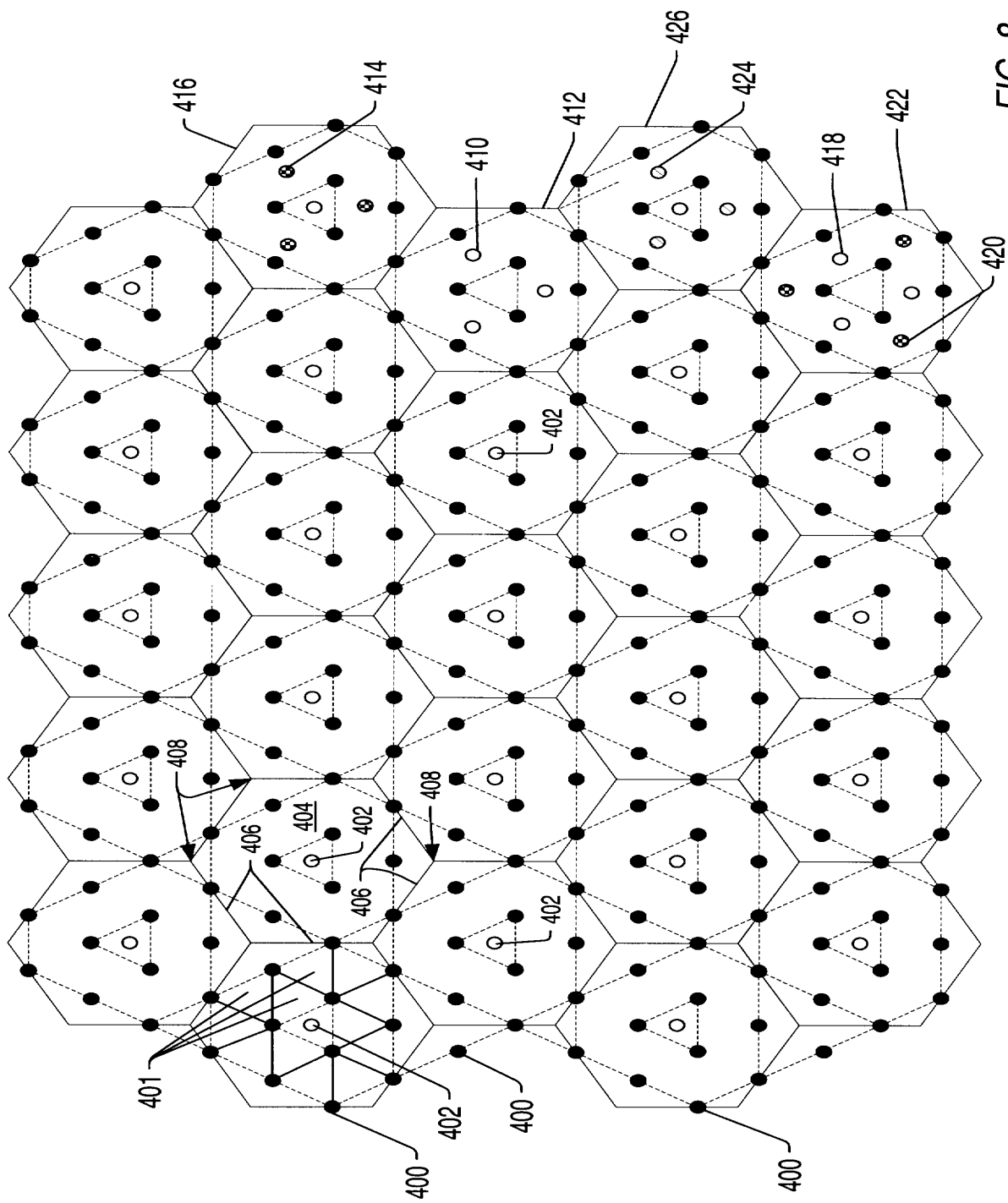


FIG. 8

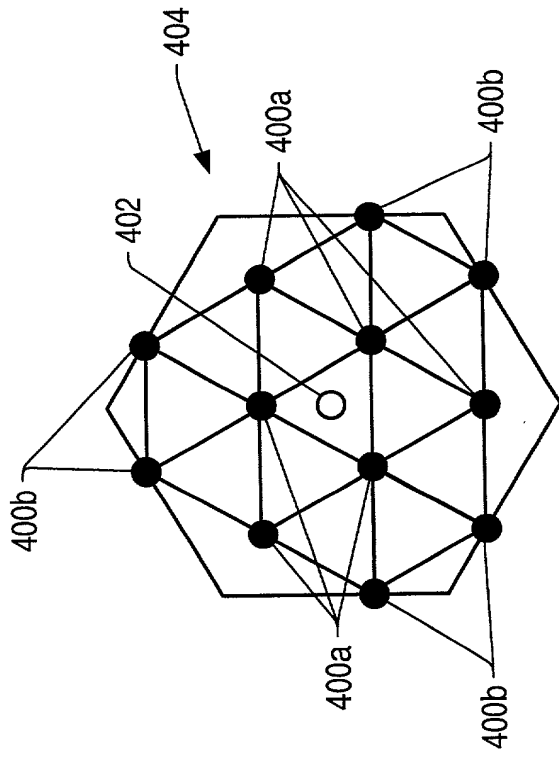


FIG. 9

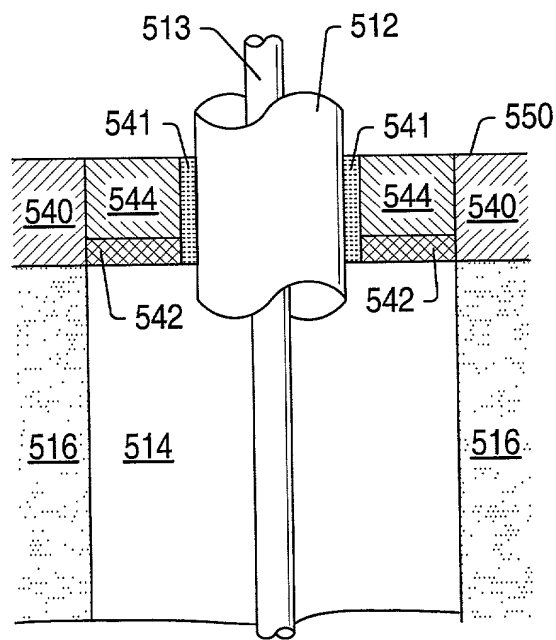


FIG. 11

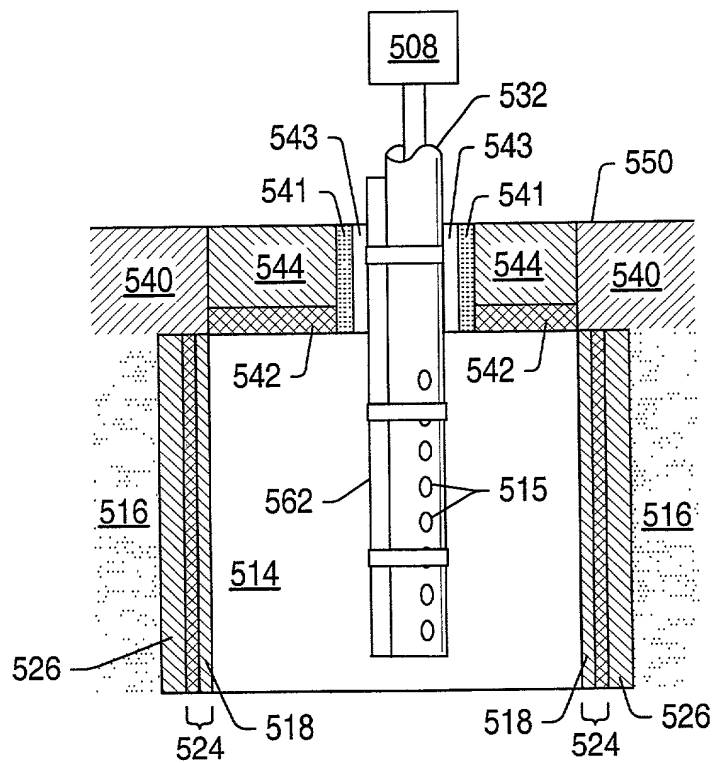


FIG. 12

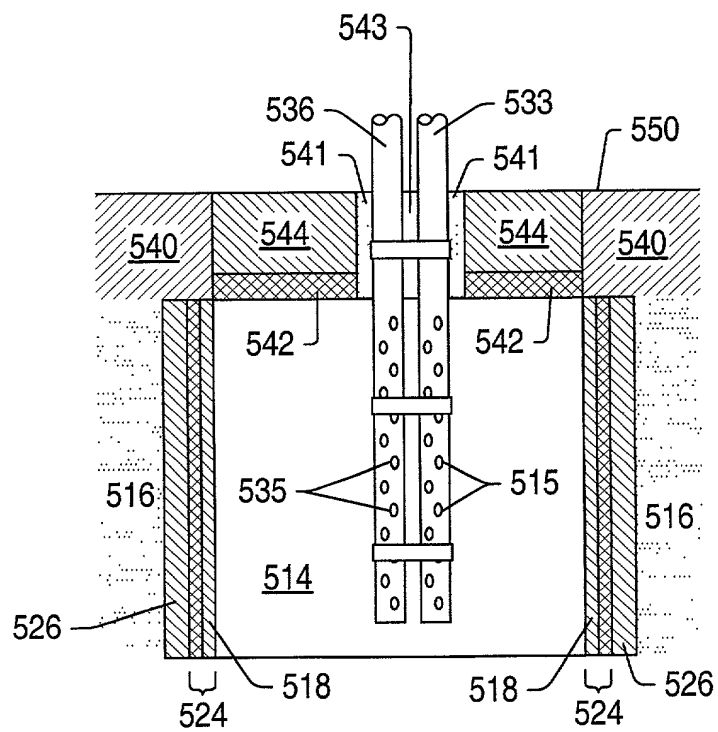


Fig. 13

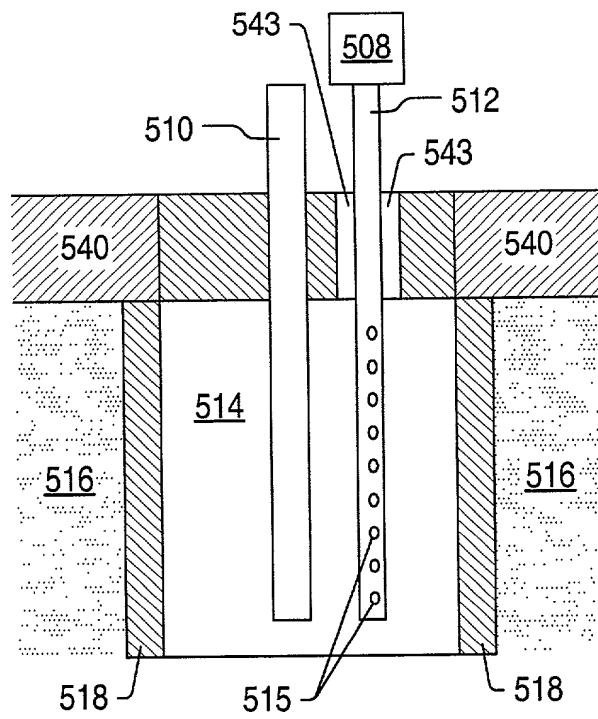


FIG. 14

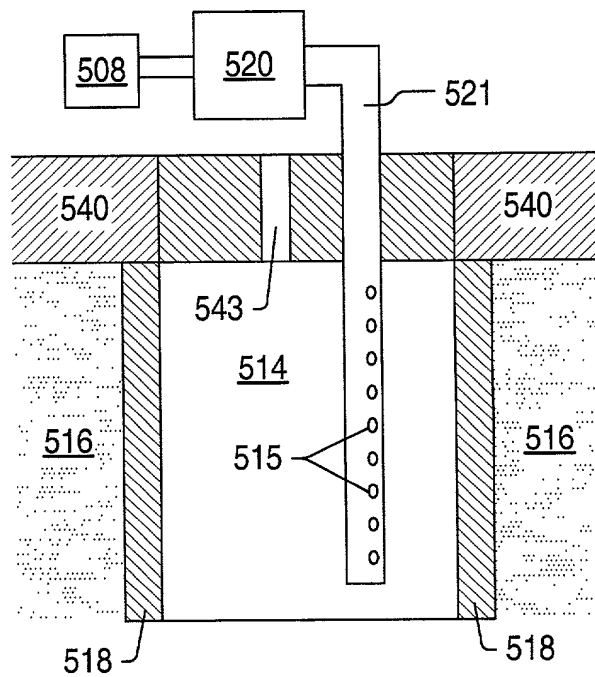


FIG. 15

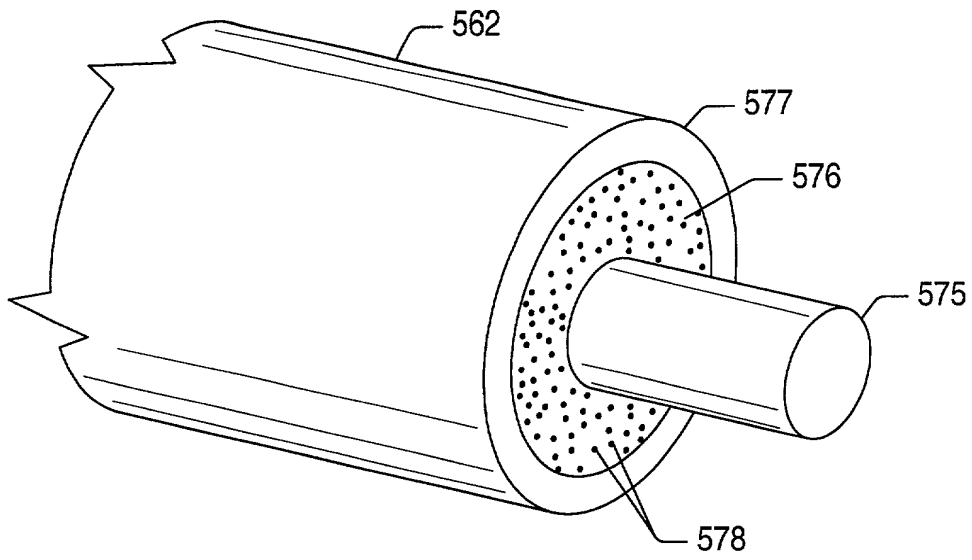


FIG. 16

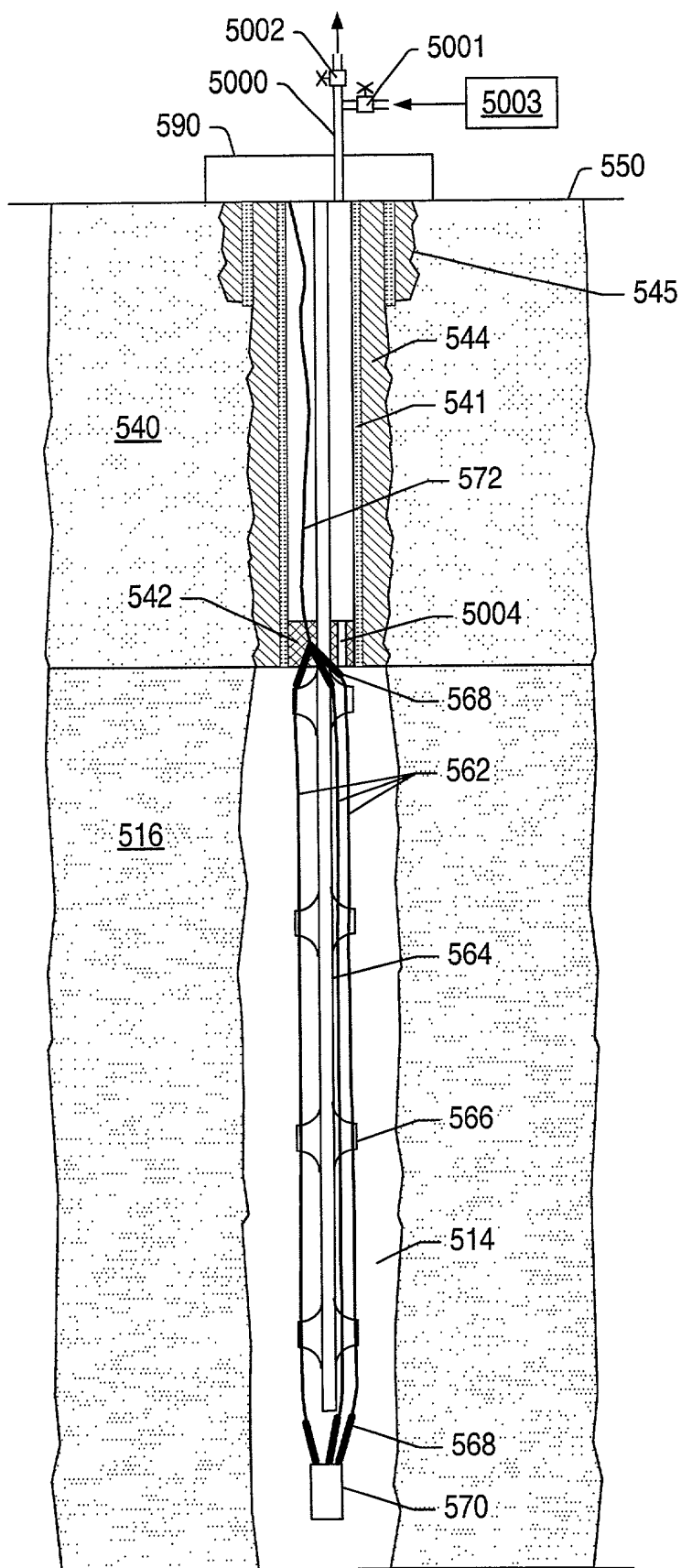


FIG. 17

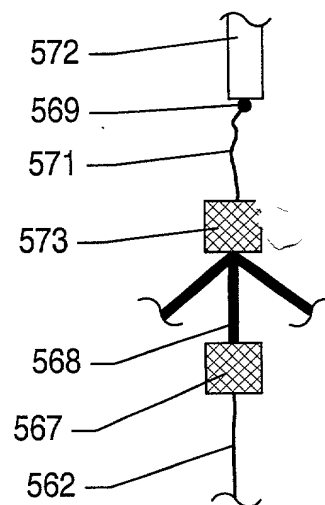


FIG. 17A

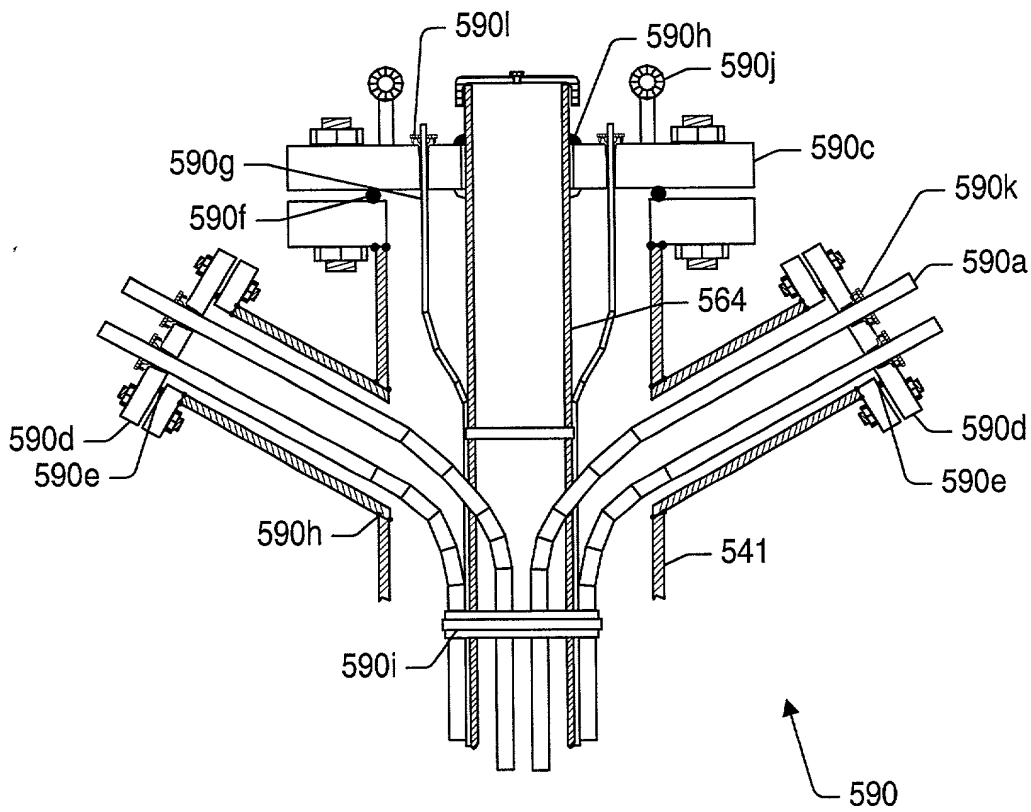


FIG. 18

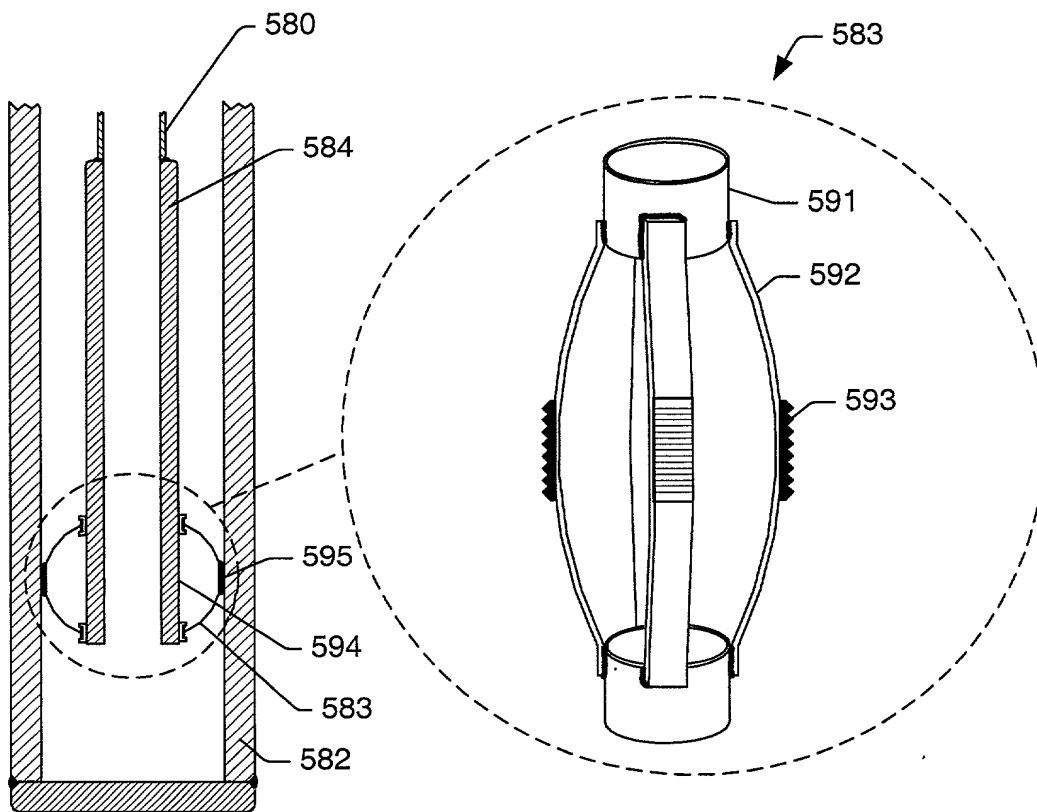


FIG. 20

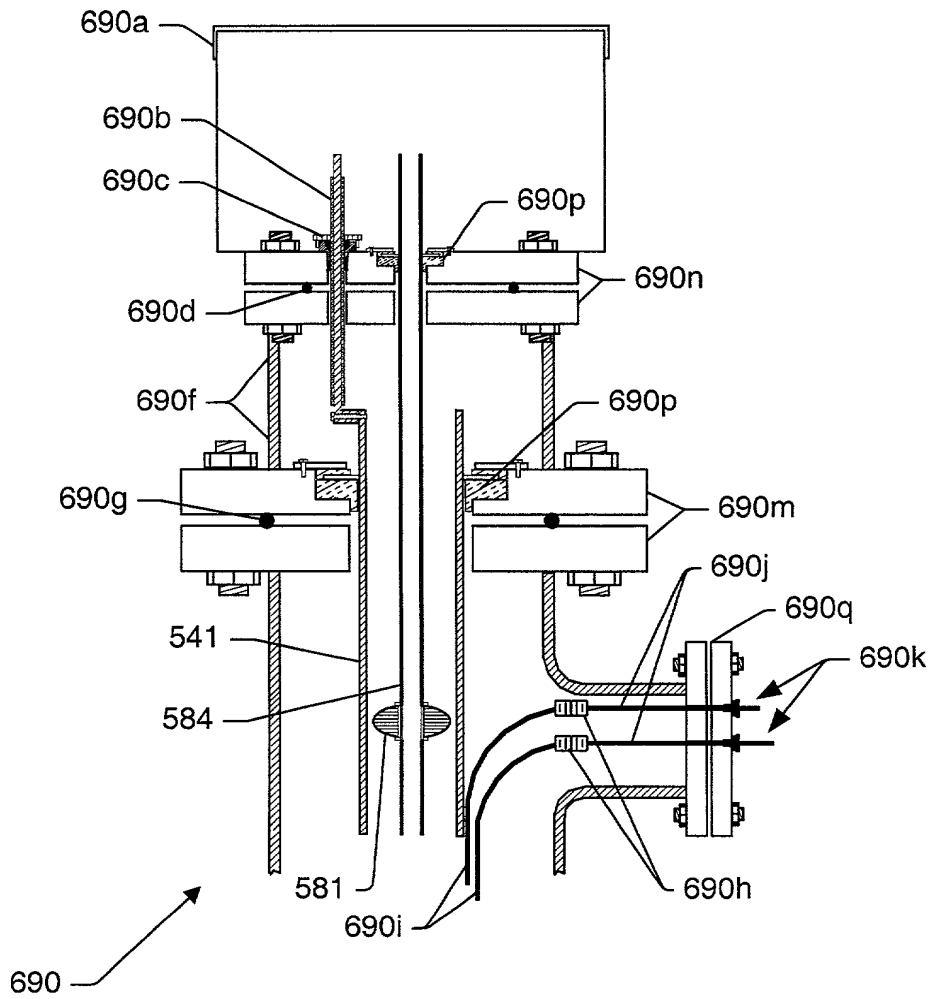


FIG. 21

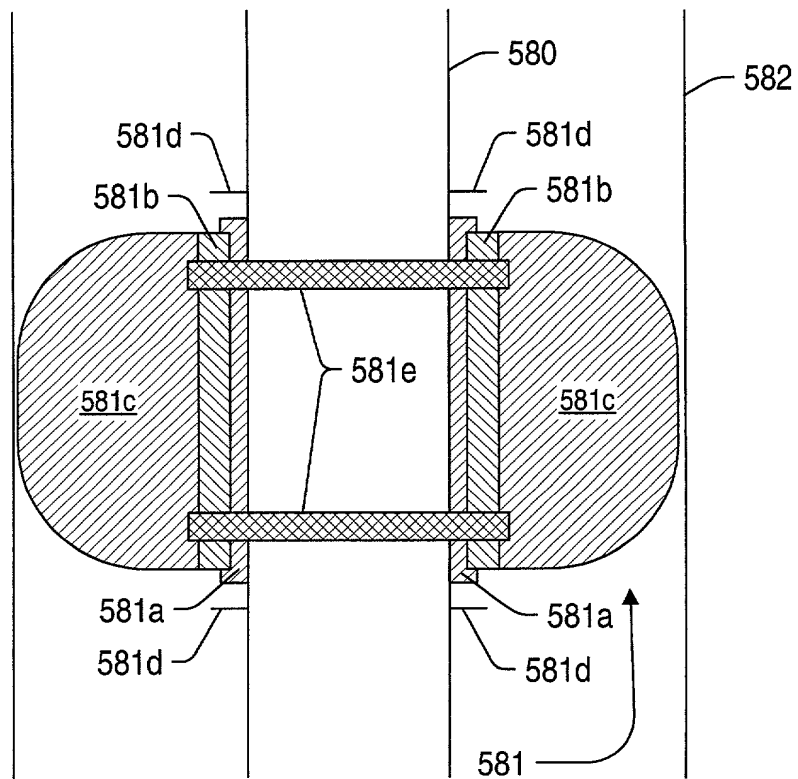


FIG. 22

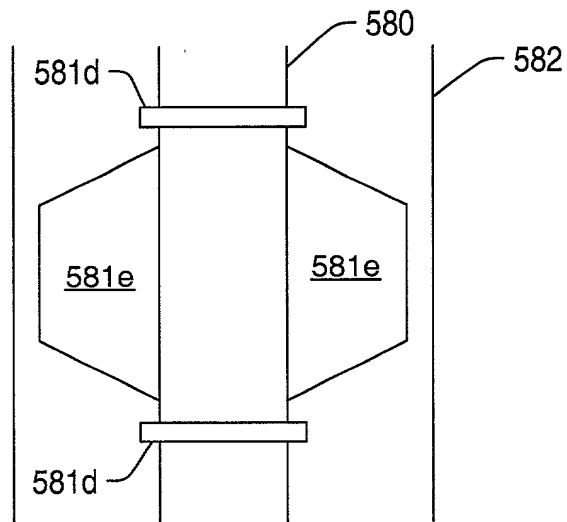


FIG. 23a

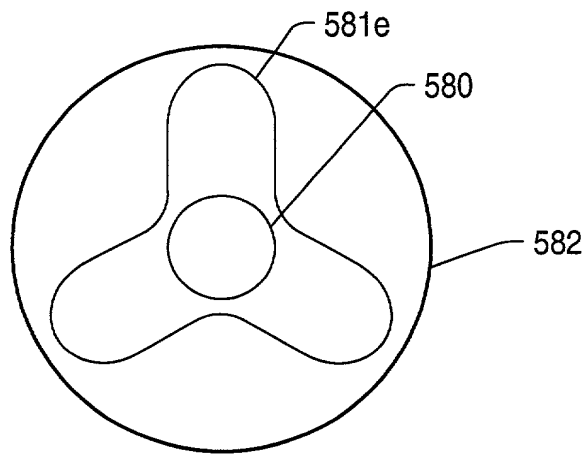


FIG. 23b

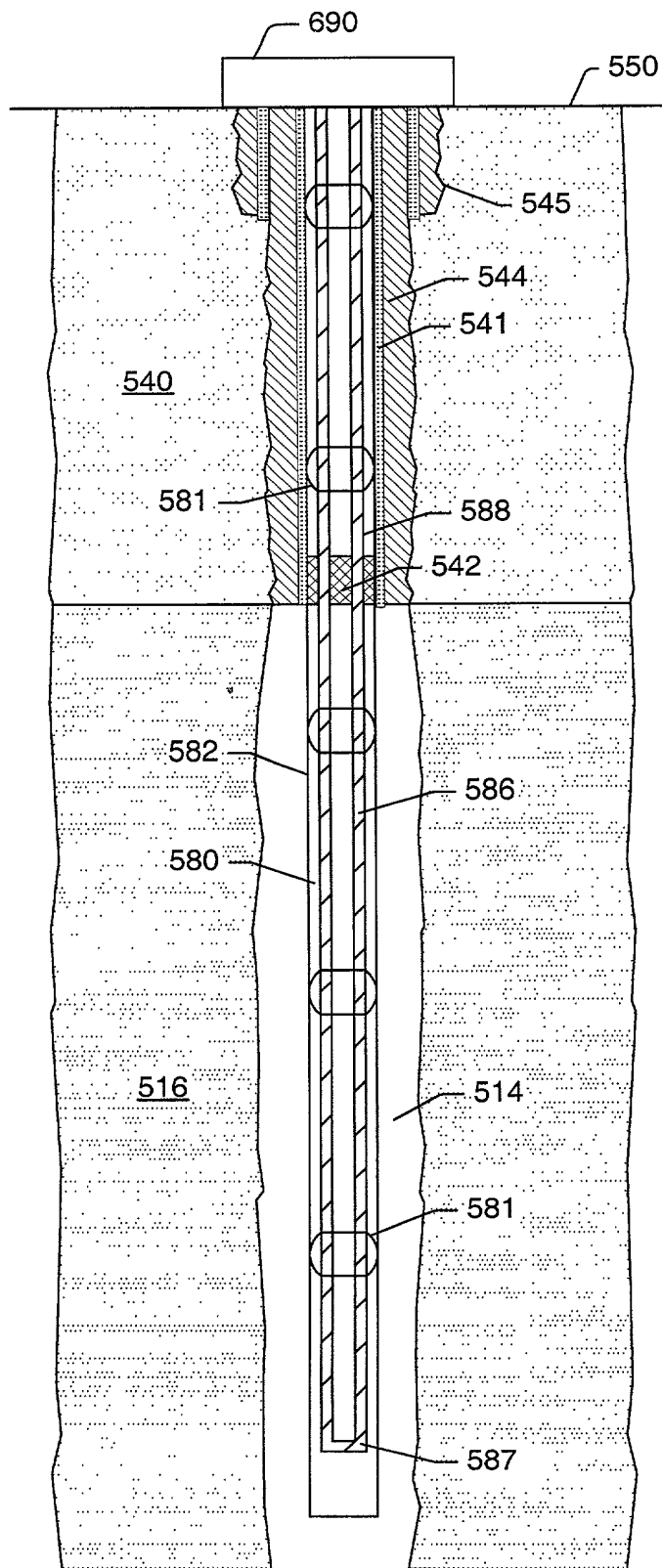


Fig. 24

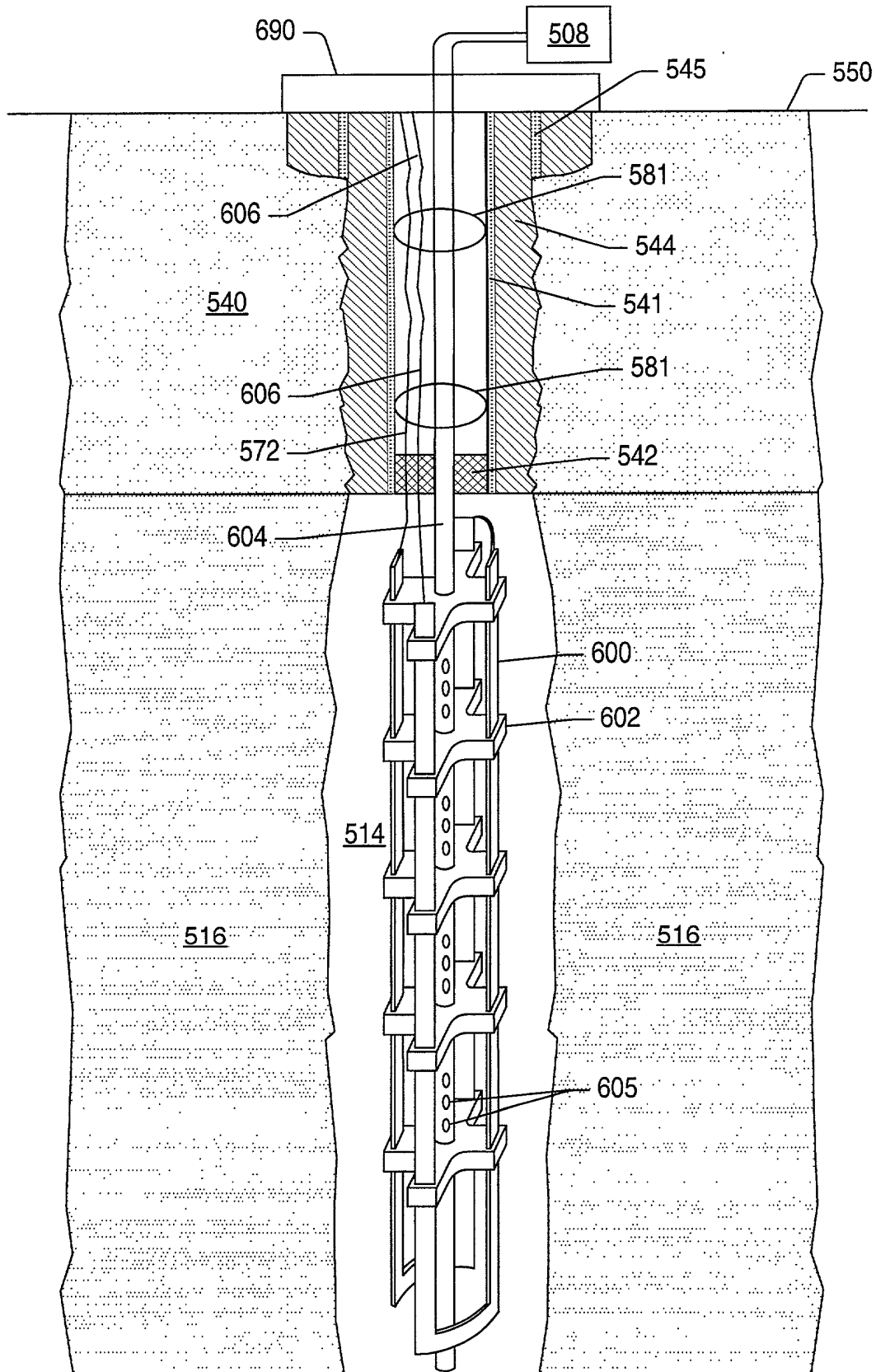


FIG. 25

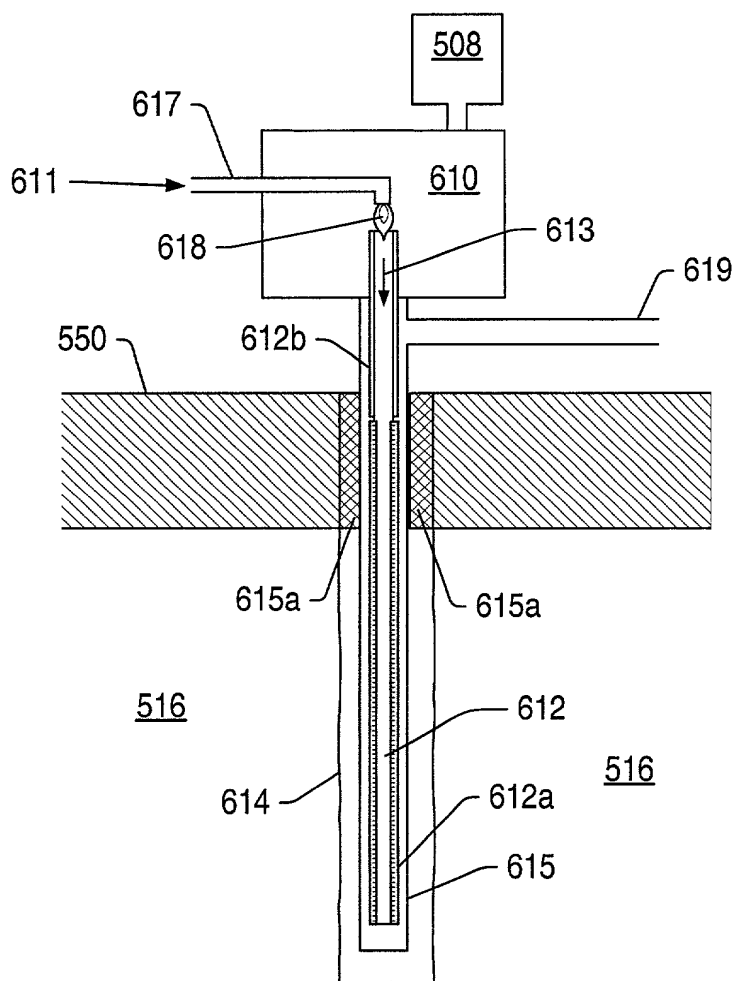


FIG. 26

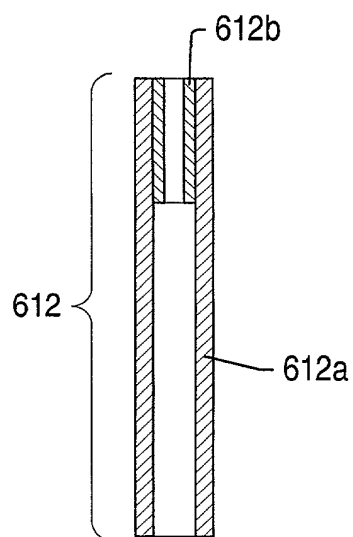


FIG. 27

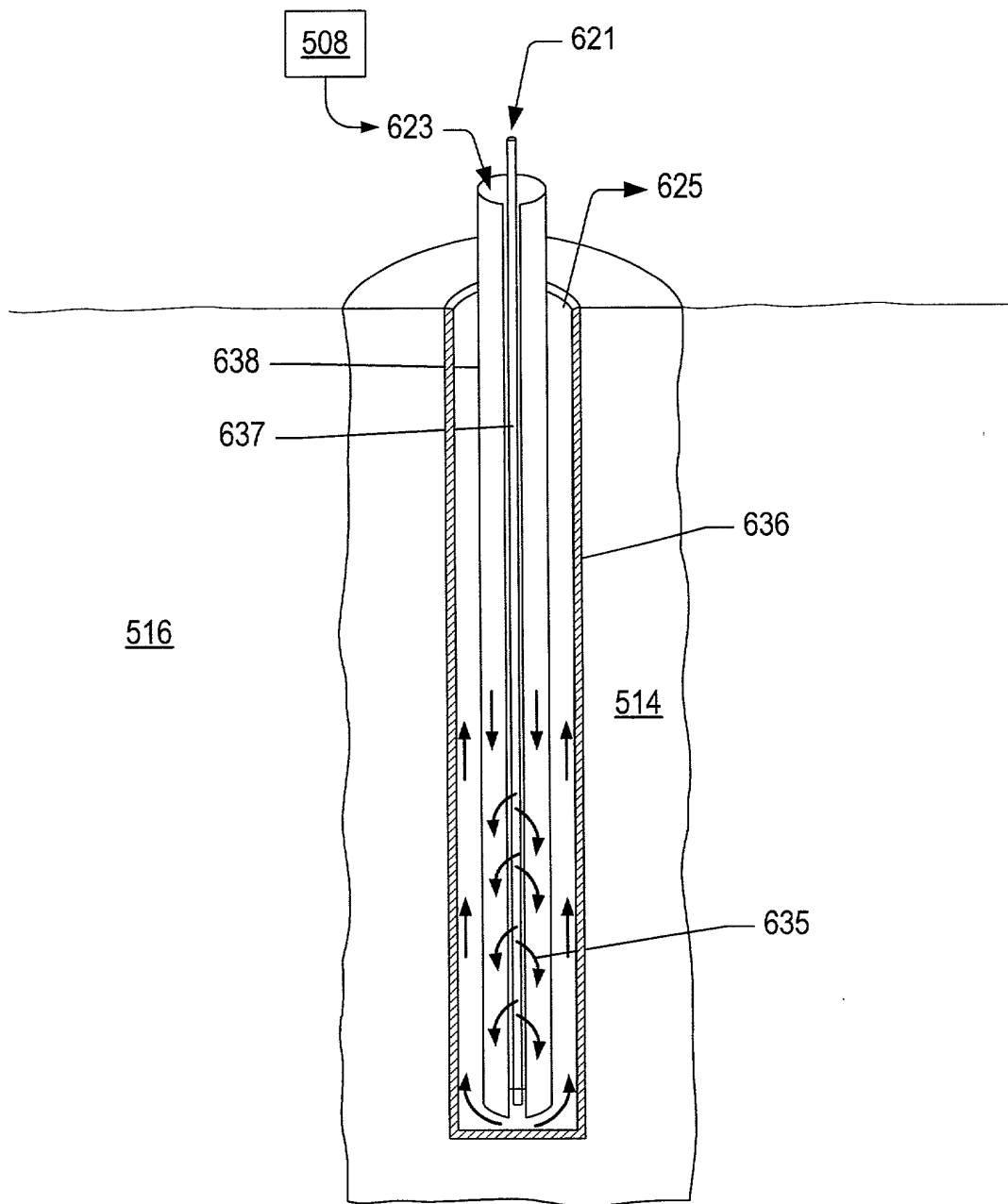


FIG. 28

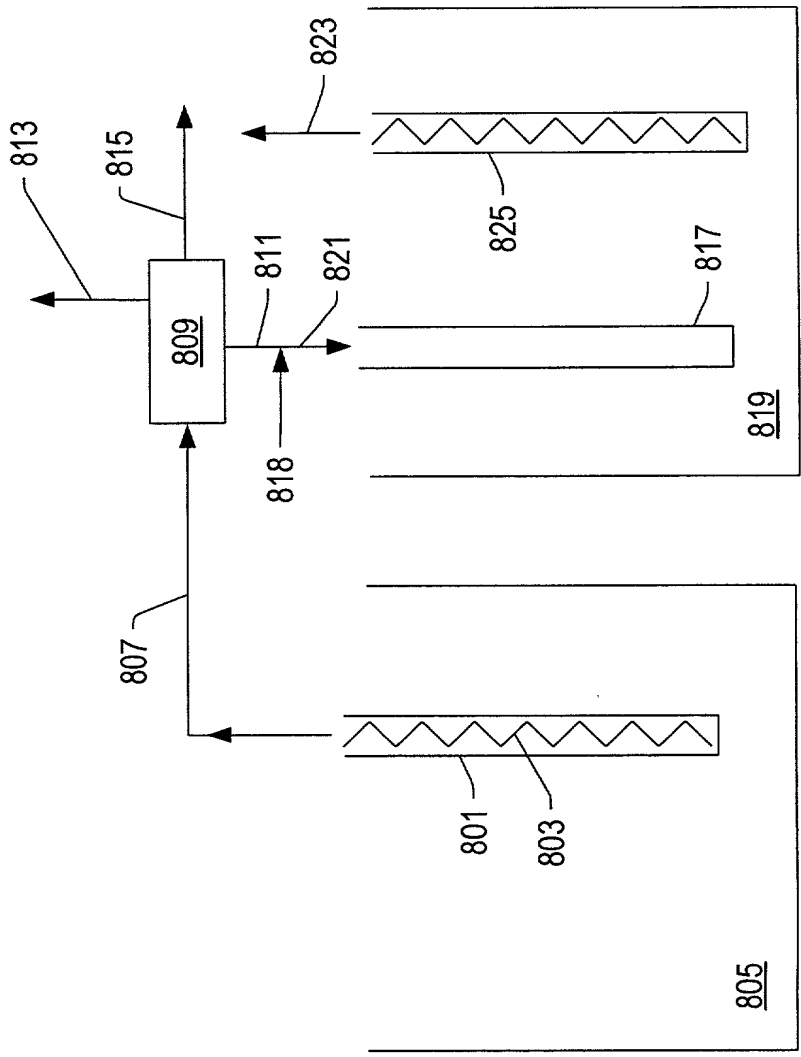


FIG. 29

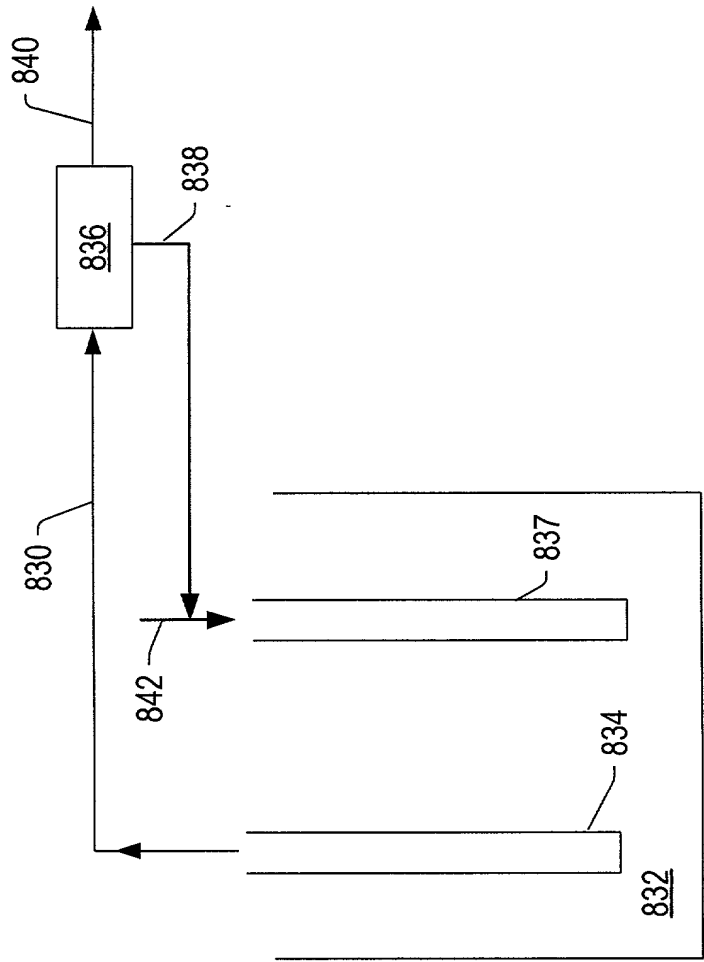


FIG. 30

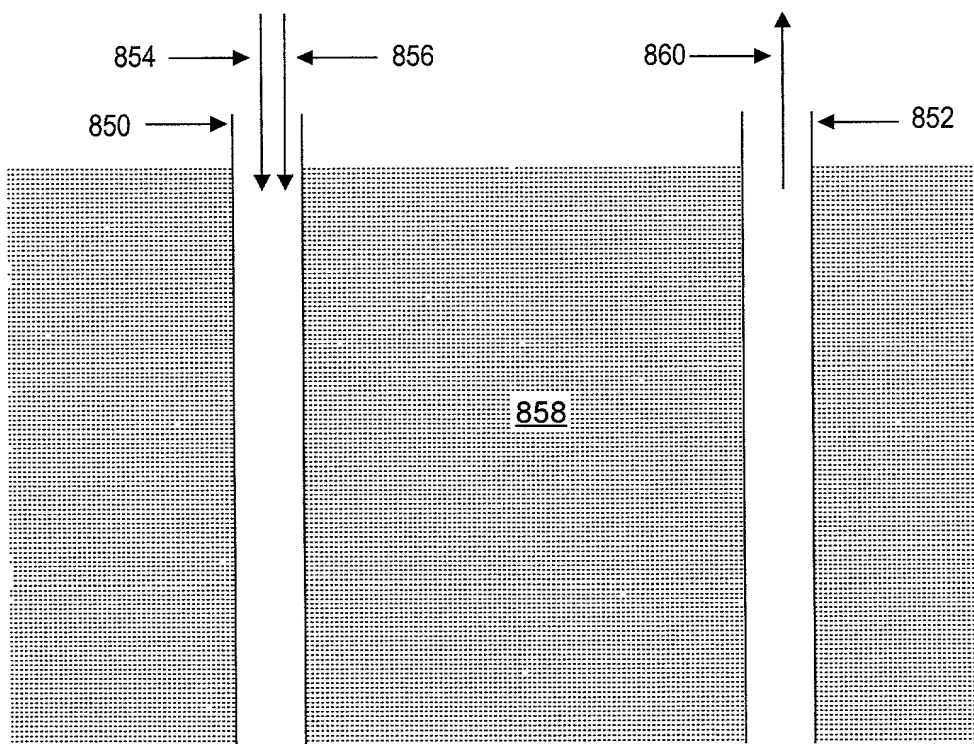


FIG. 31

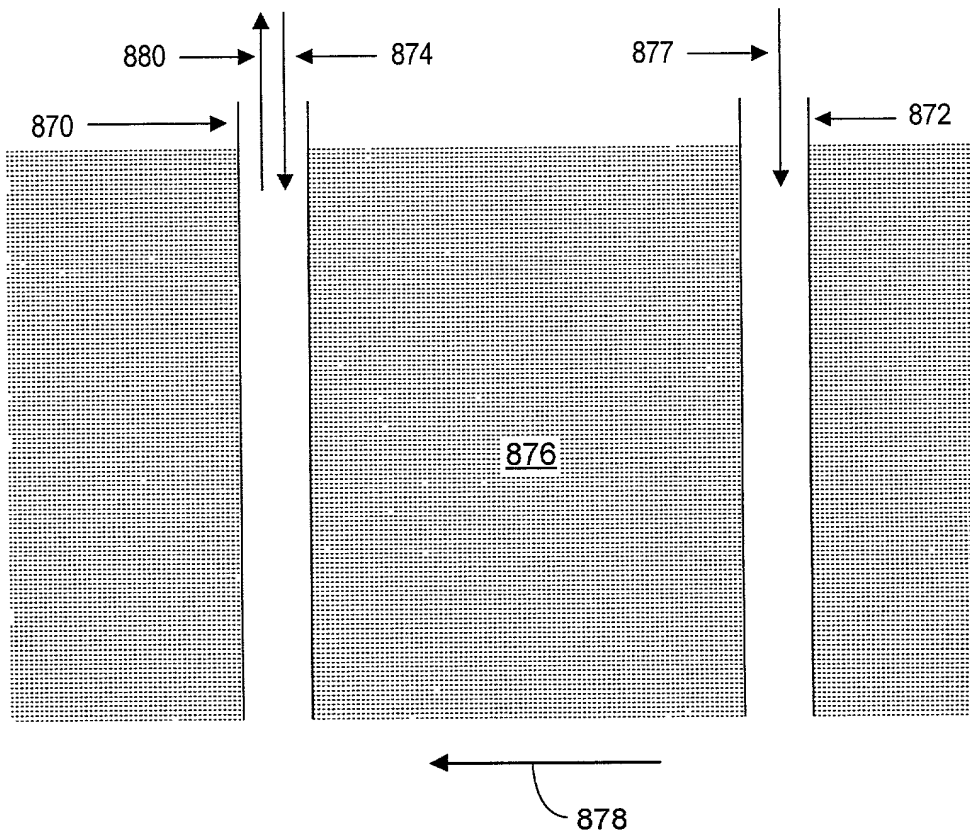


FIG. 32

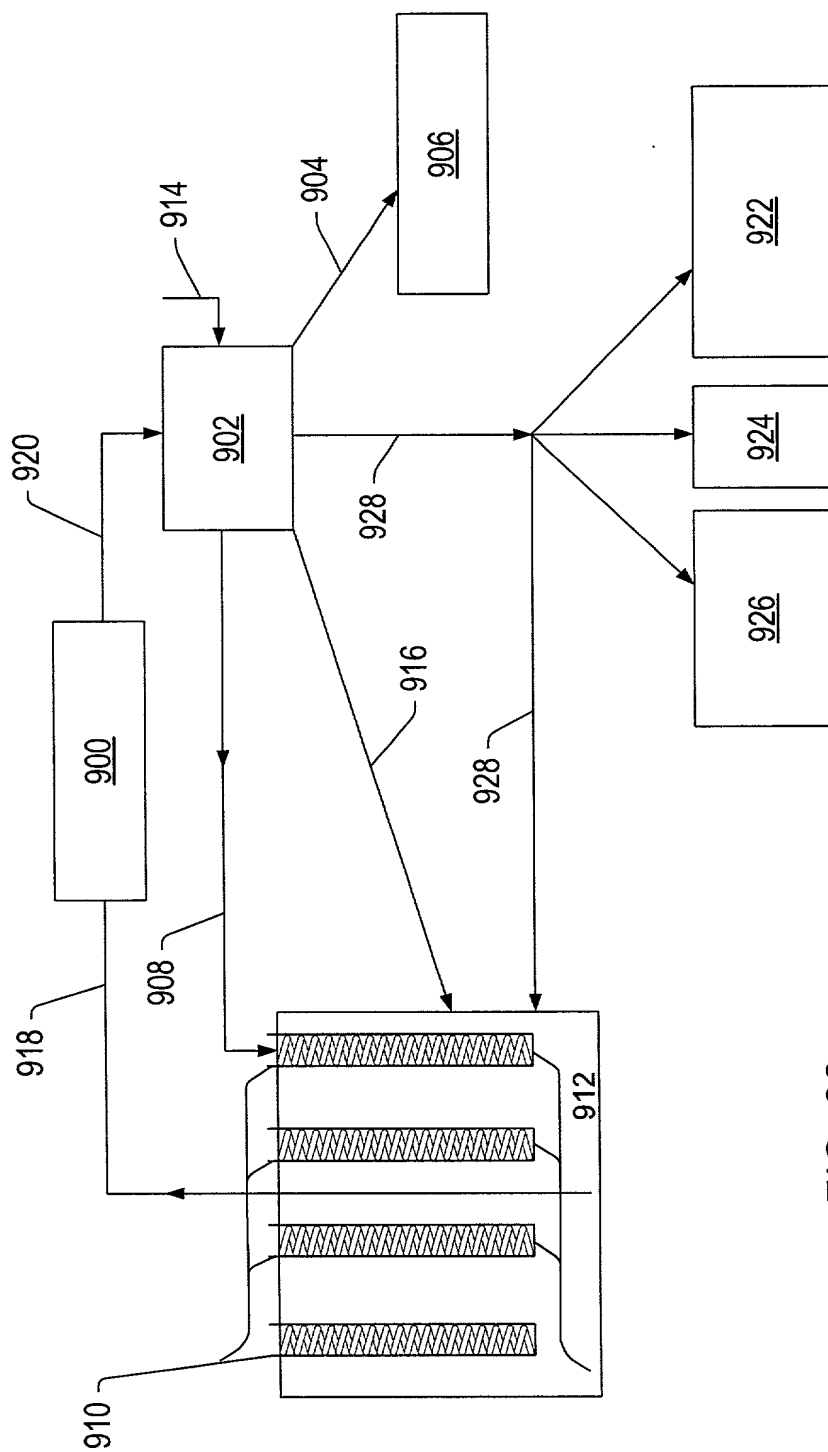


FIG. 33

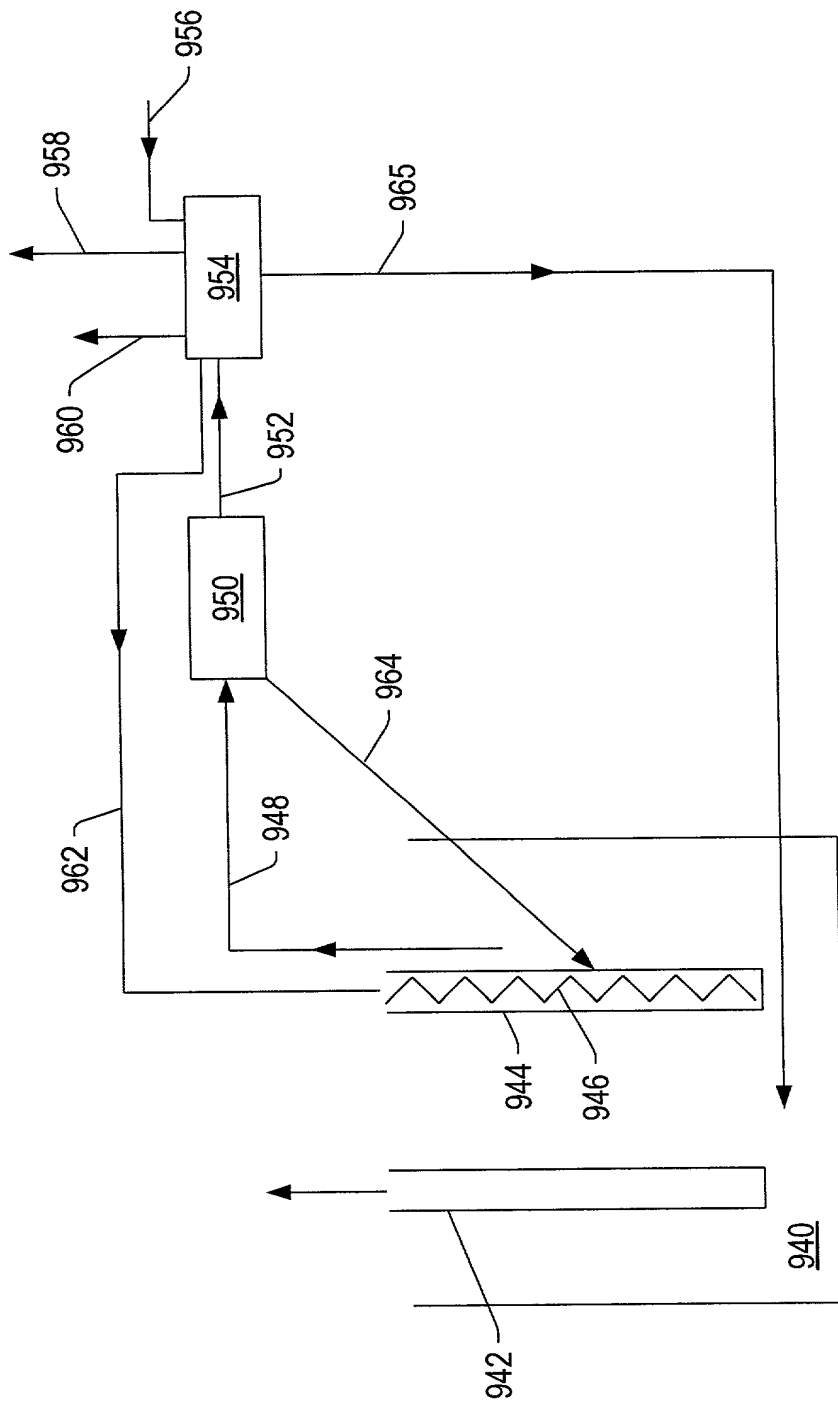


FIG. 34

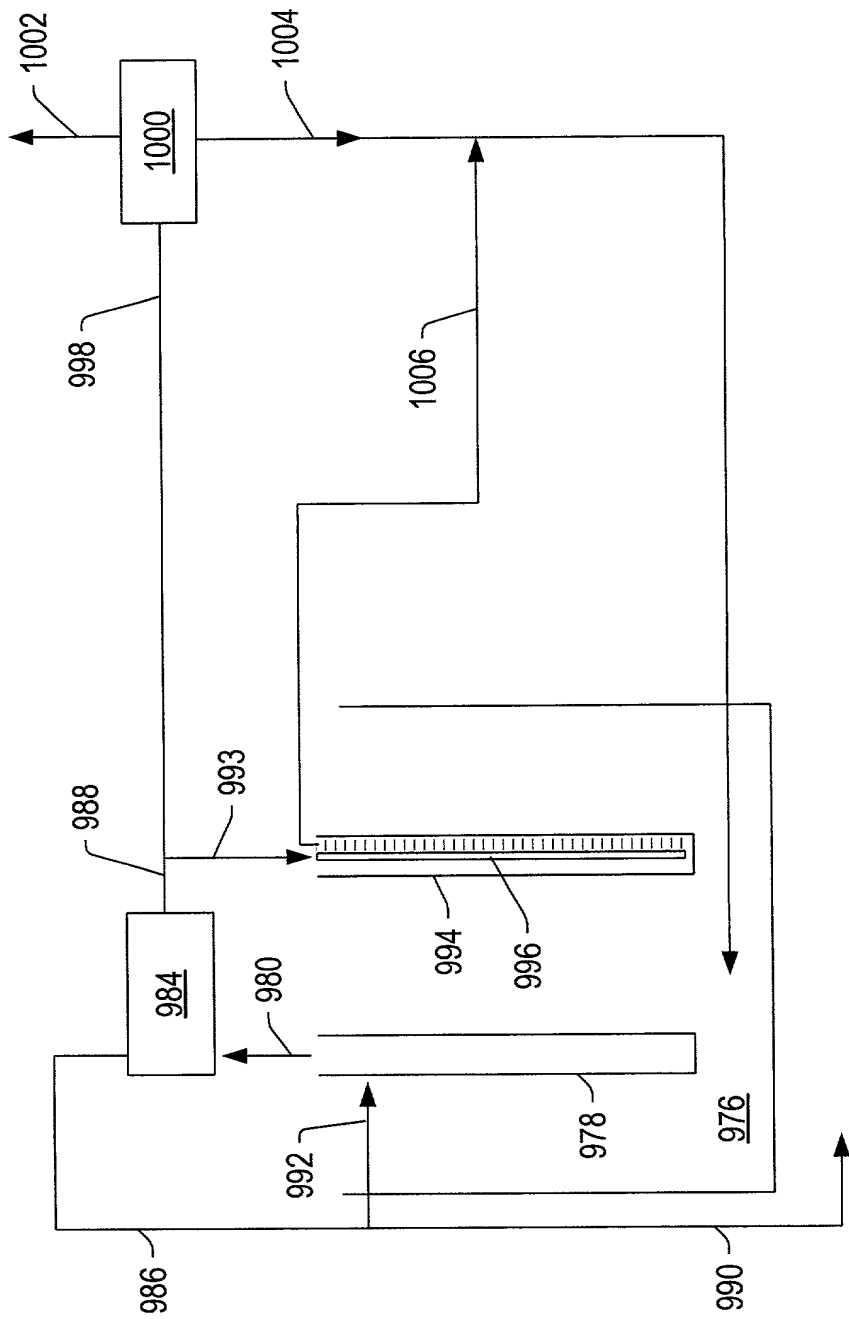


FIG. 35

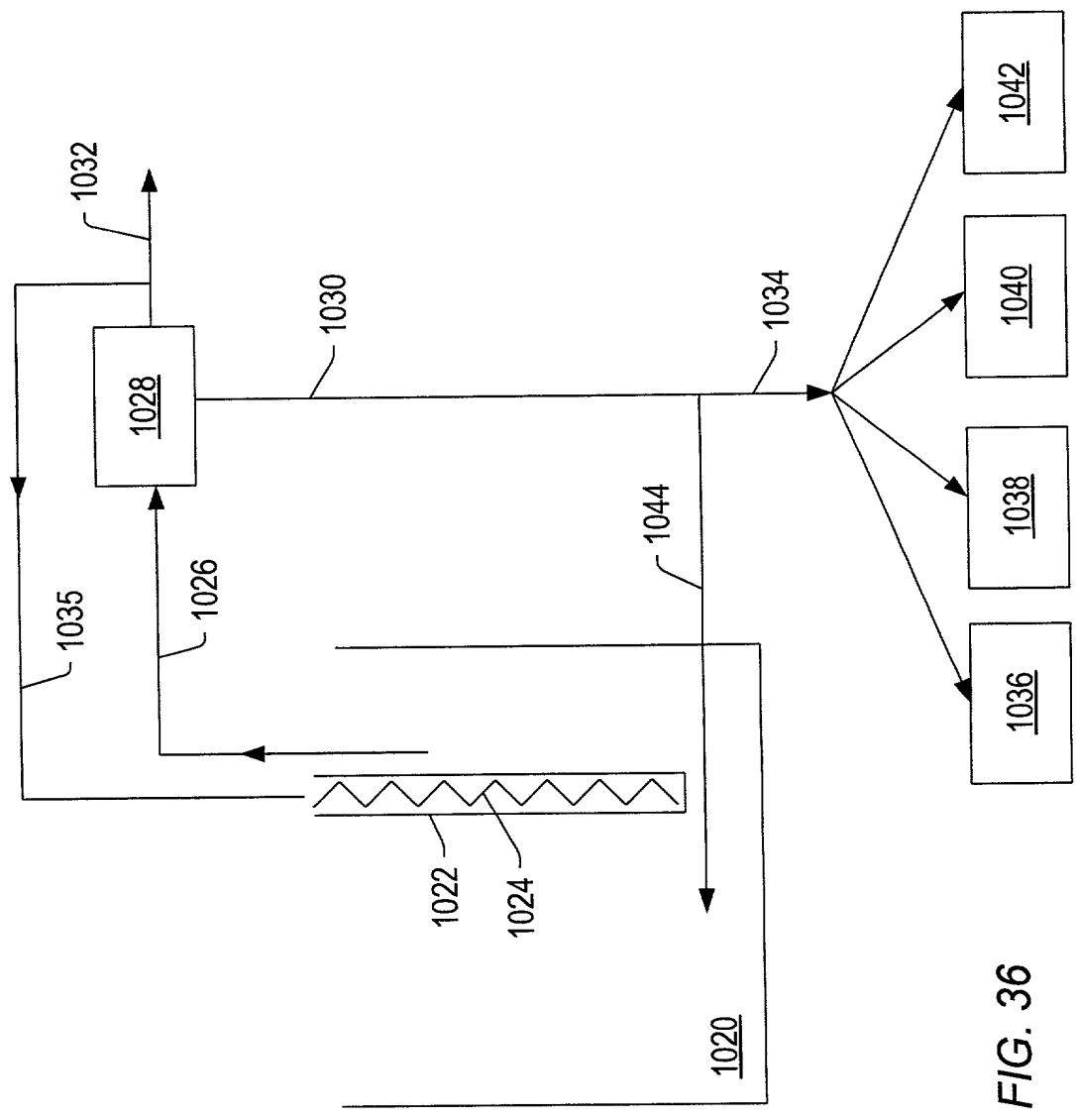


FIG. 36

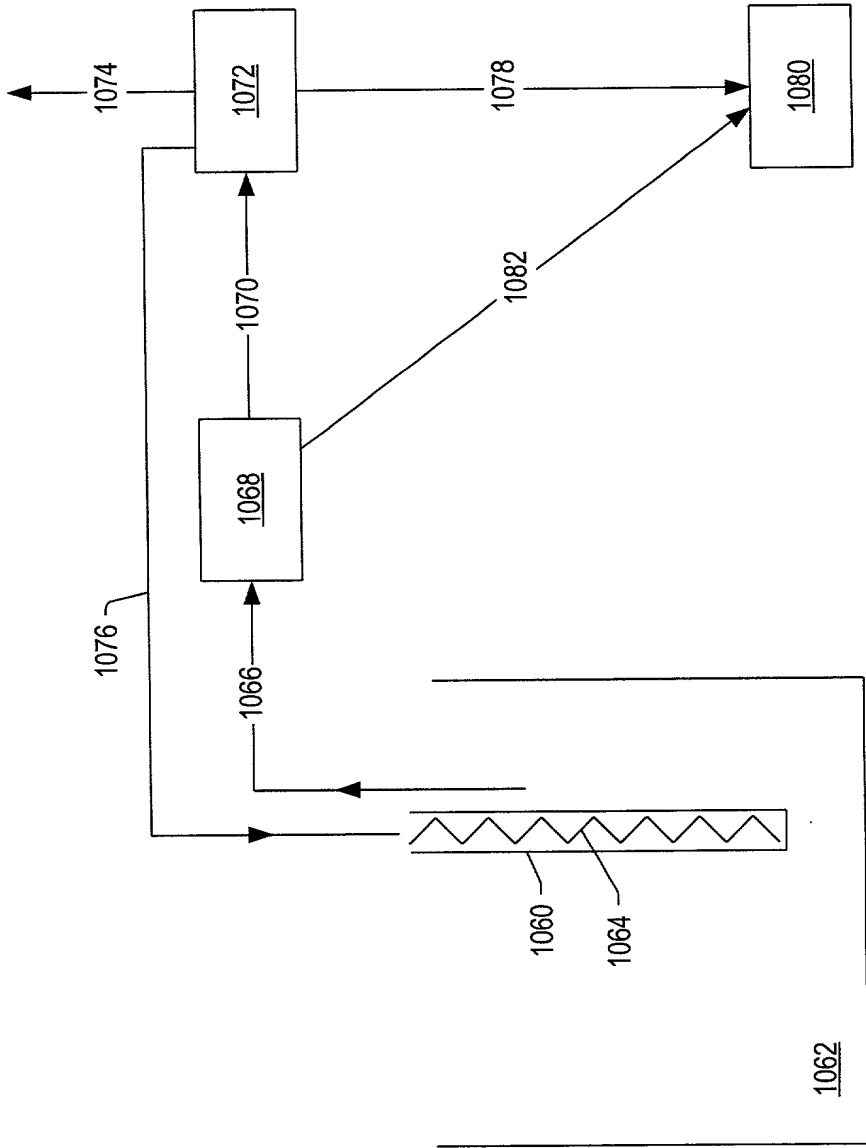


FIG. 37

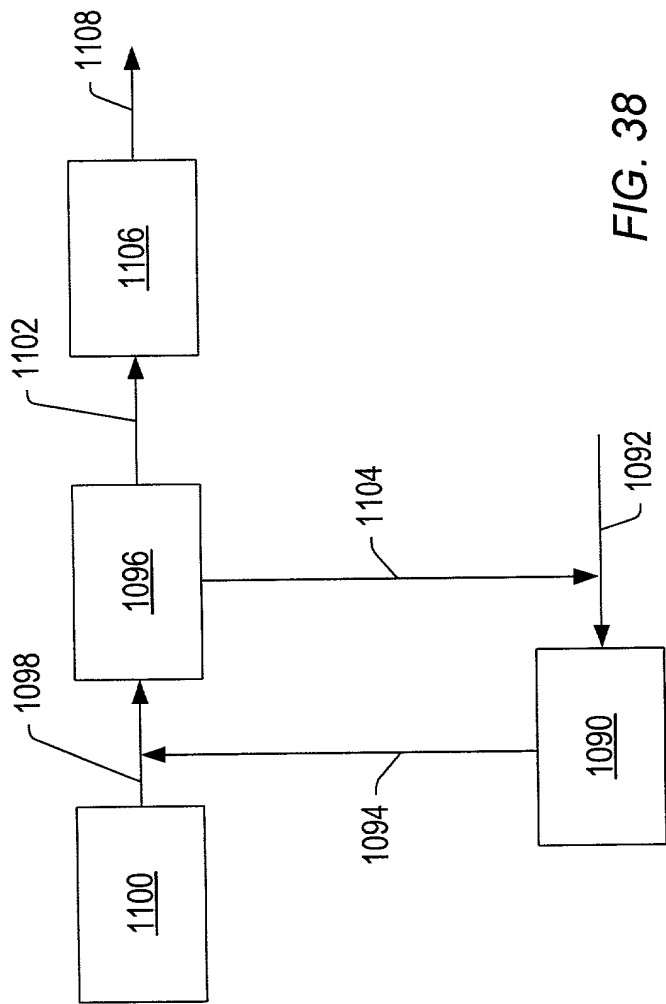


FIG. 38

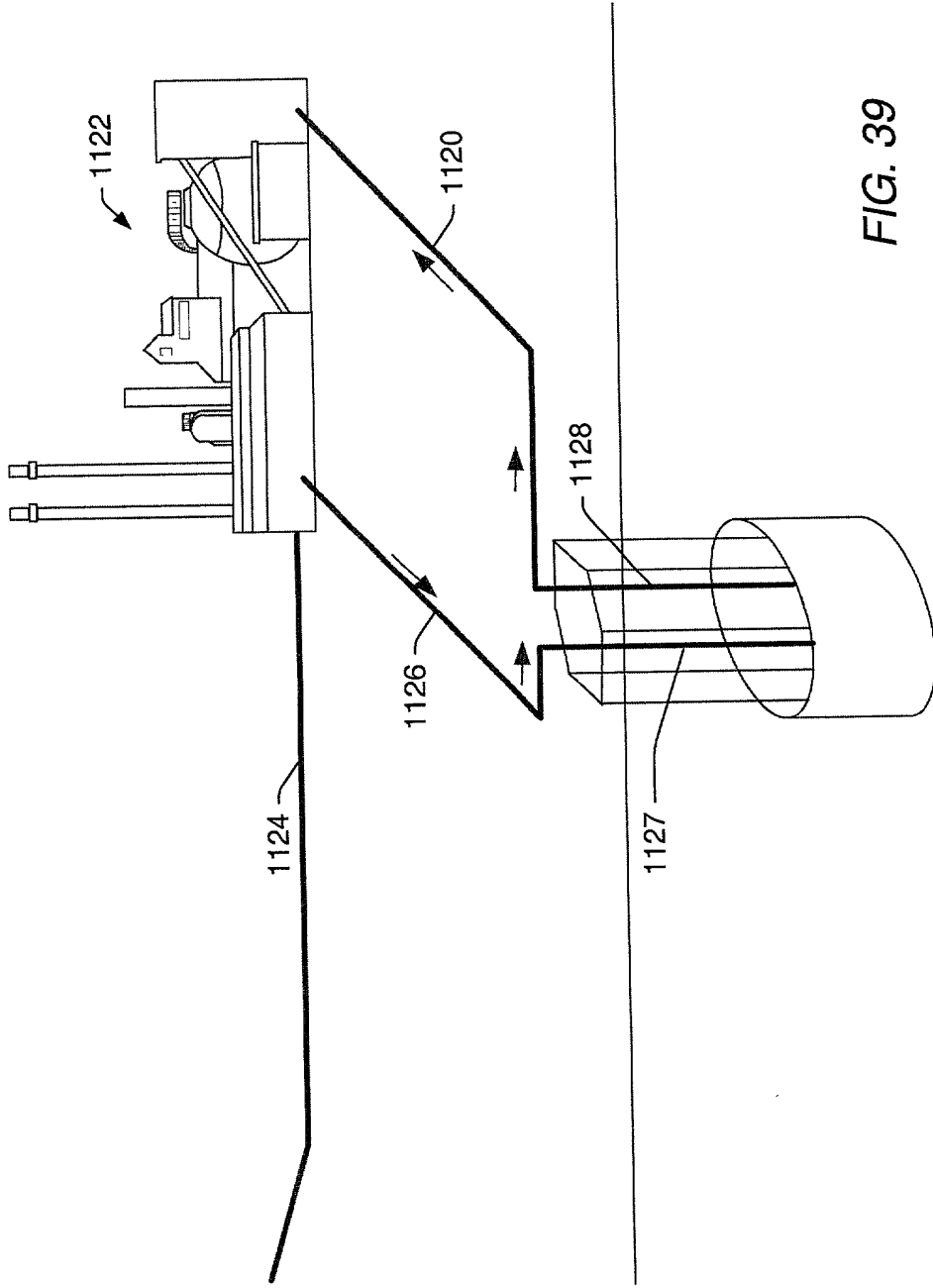


FIG. 39

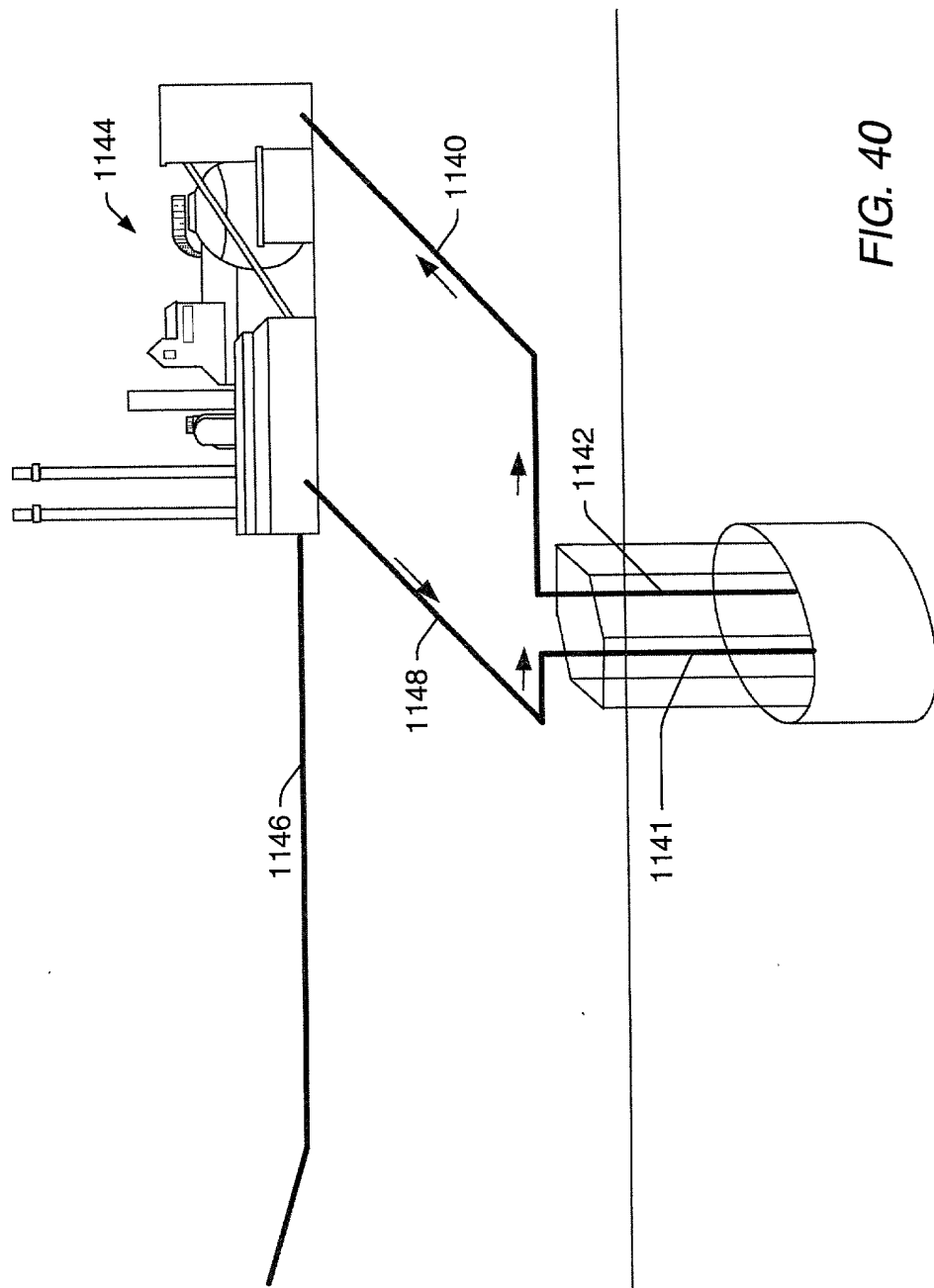


FIG. 40

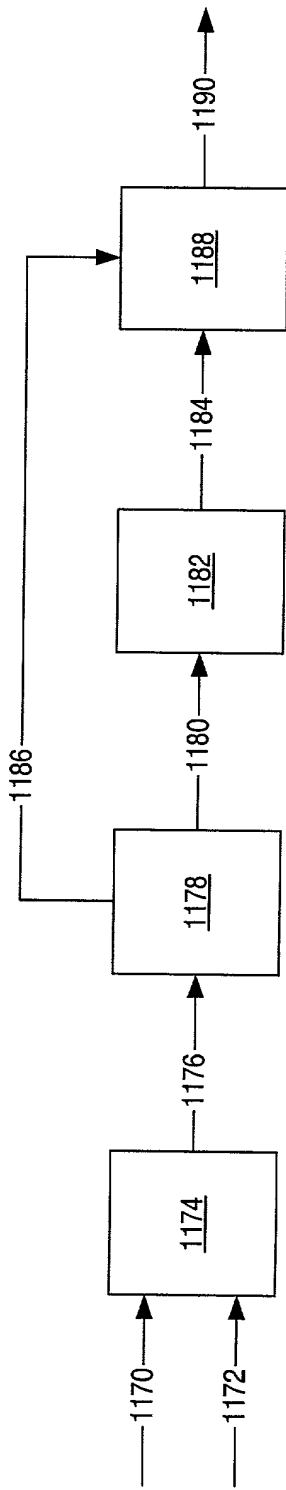


FIG. 41

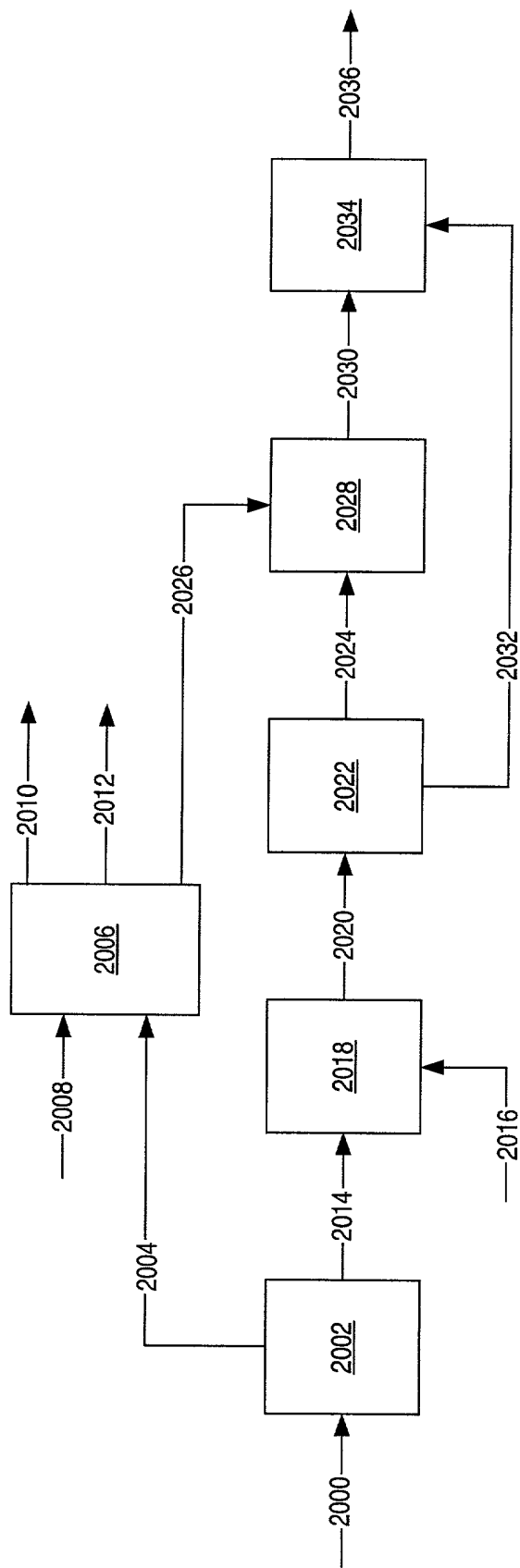


FIG. 42

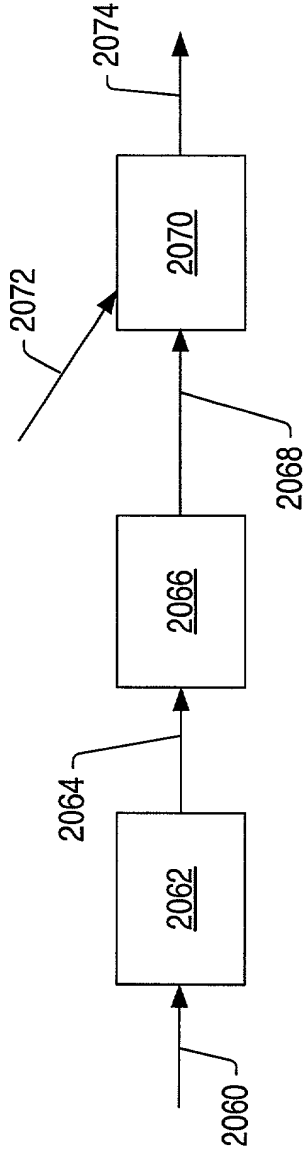


FIG. 43

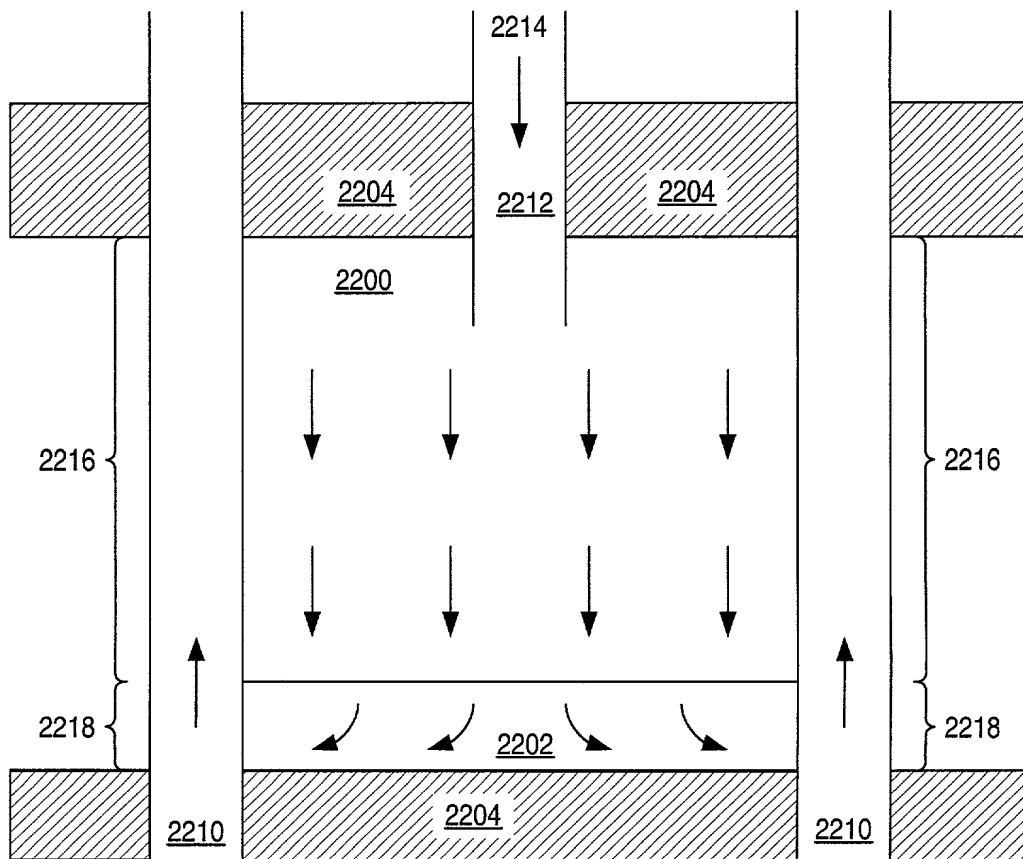


FIG. 44

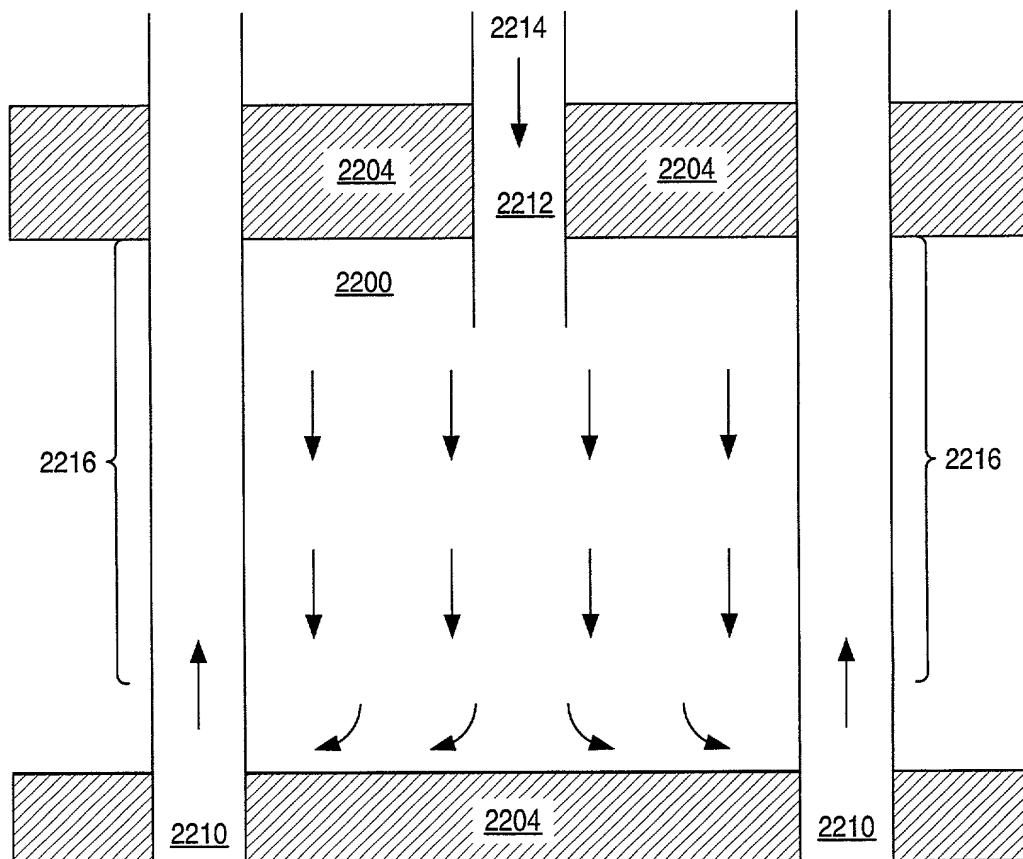


FIG. 45

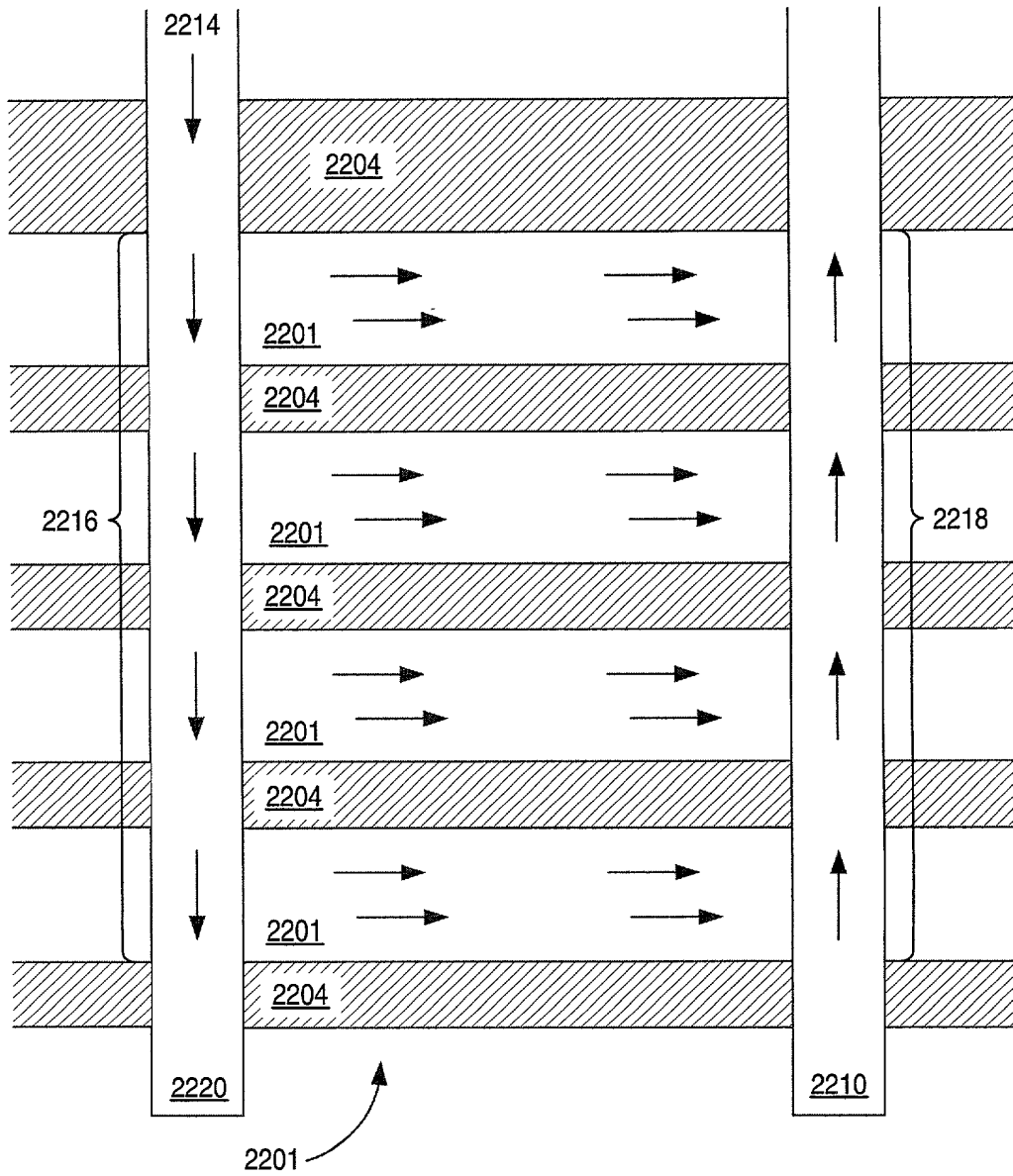


FIG. 46

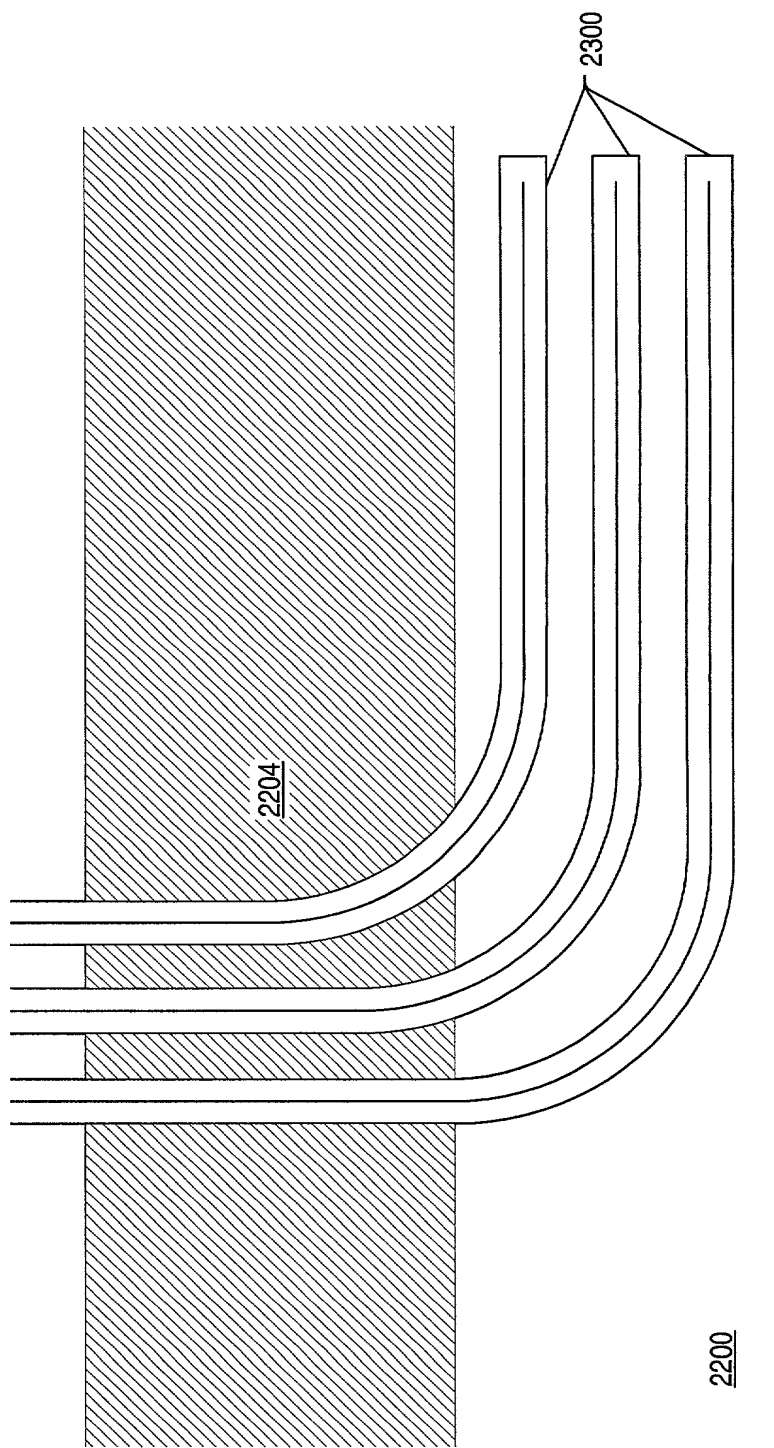


FIG. 47

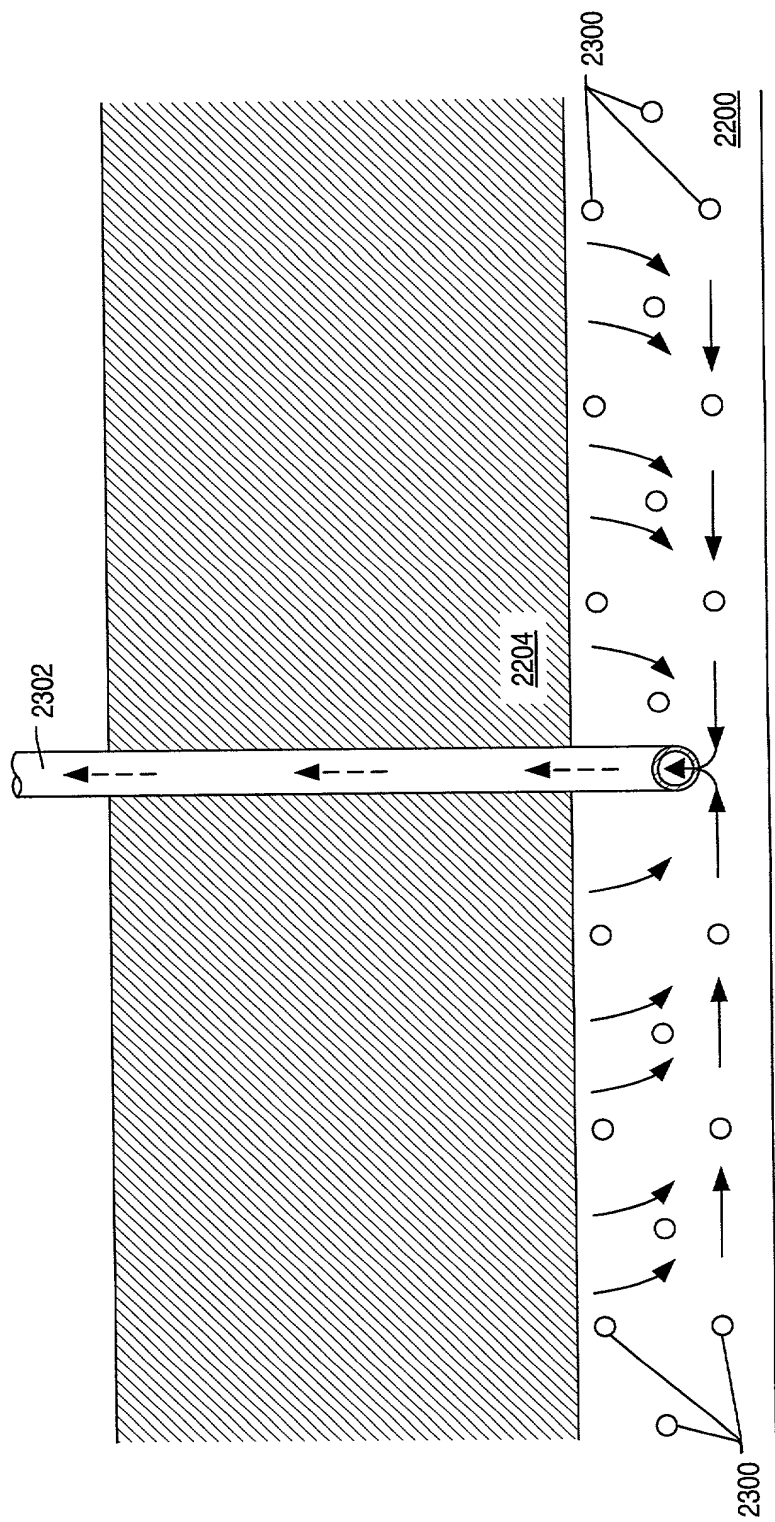


FIG. 48

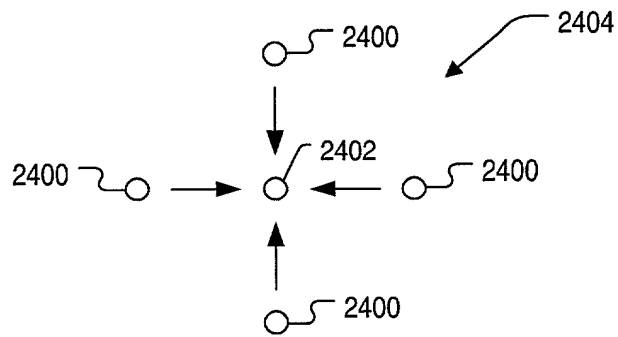


FIG. 49

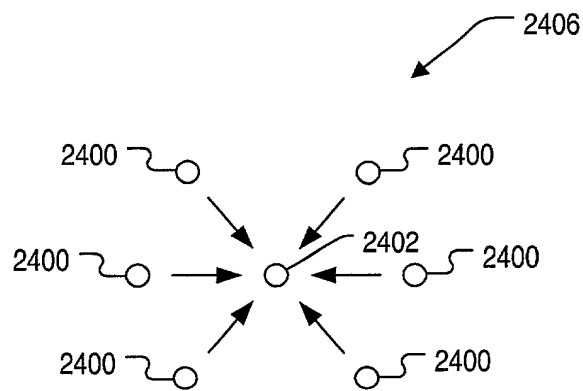


FIG. 50

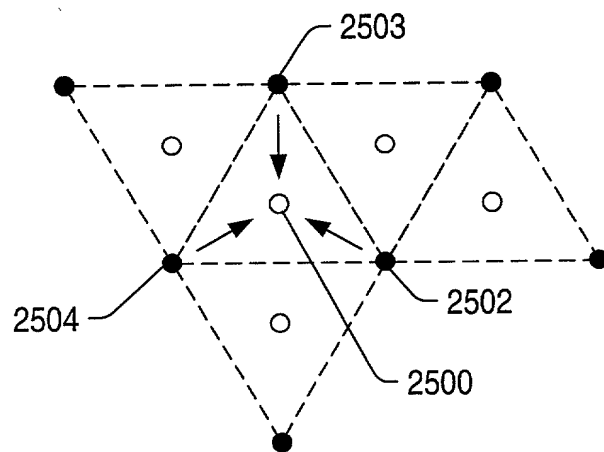


FIG. 51

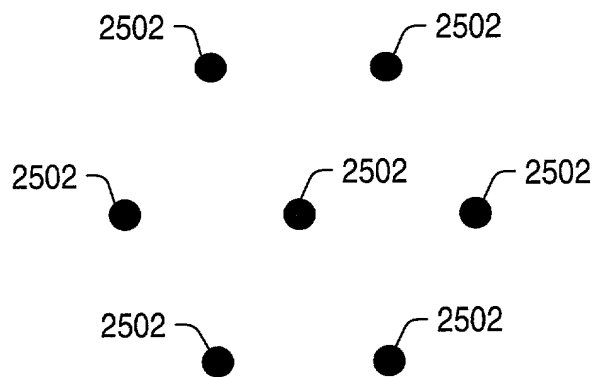


FIG. 52

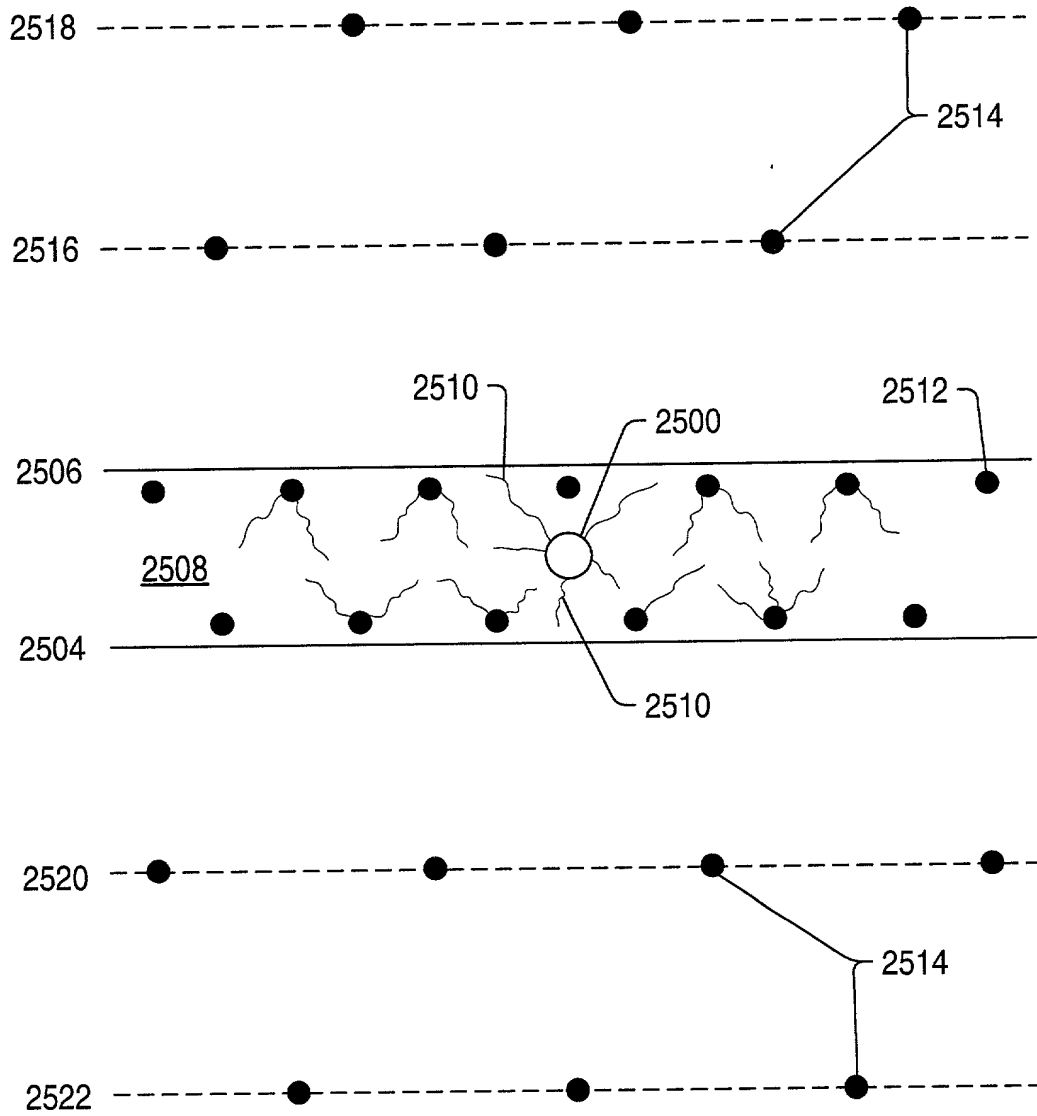


FIG. 53

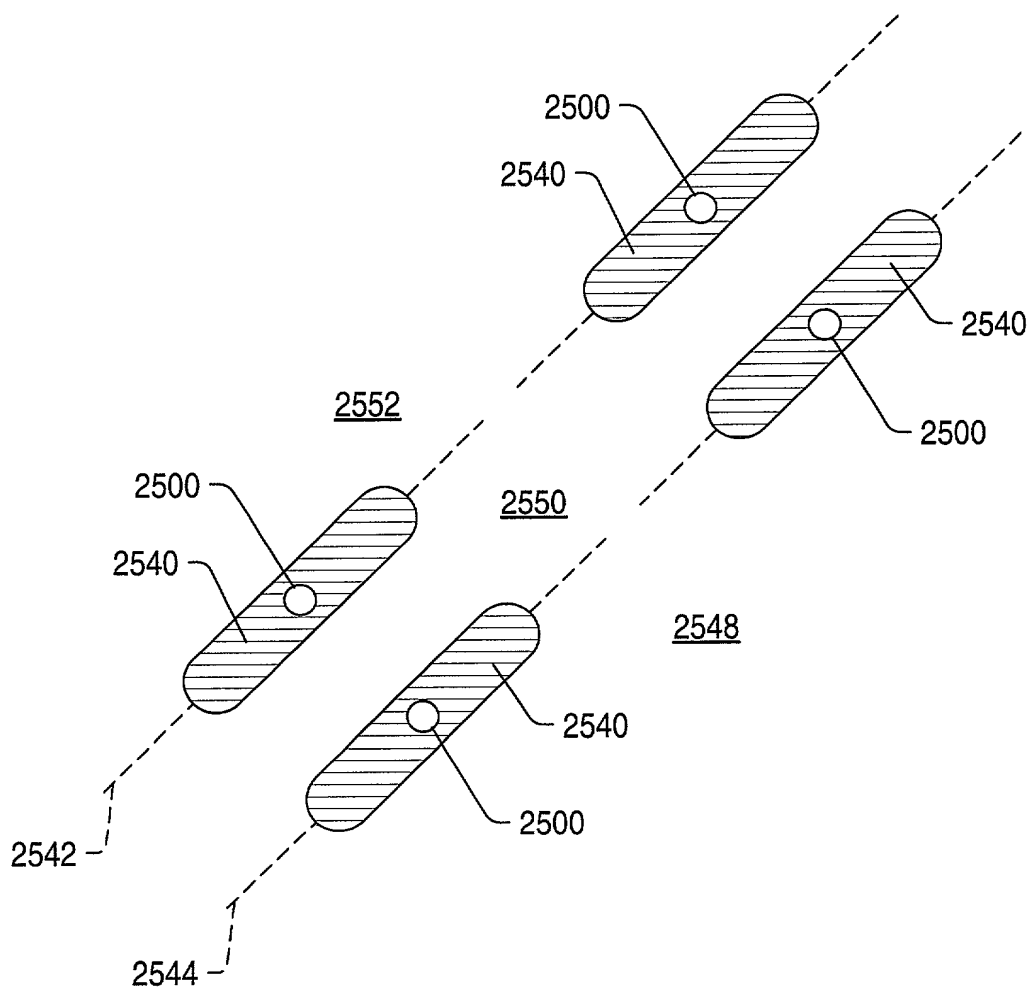


FIG. 54

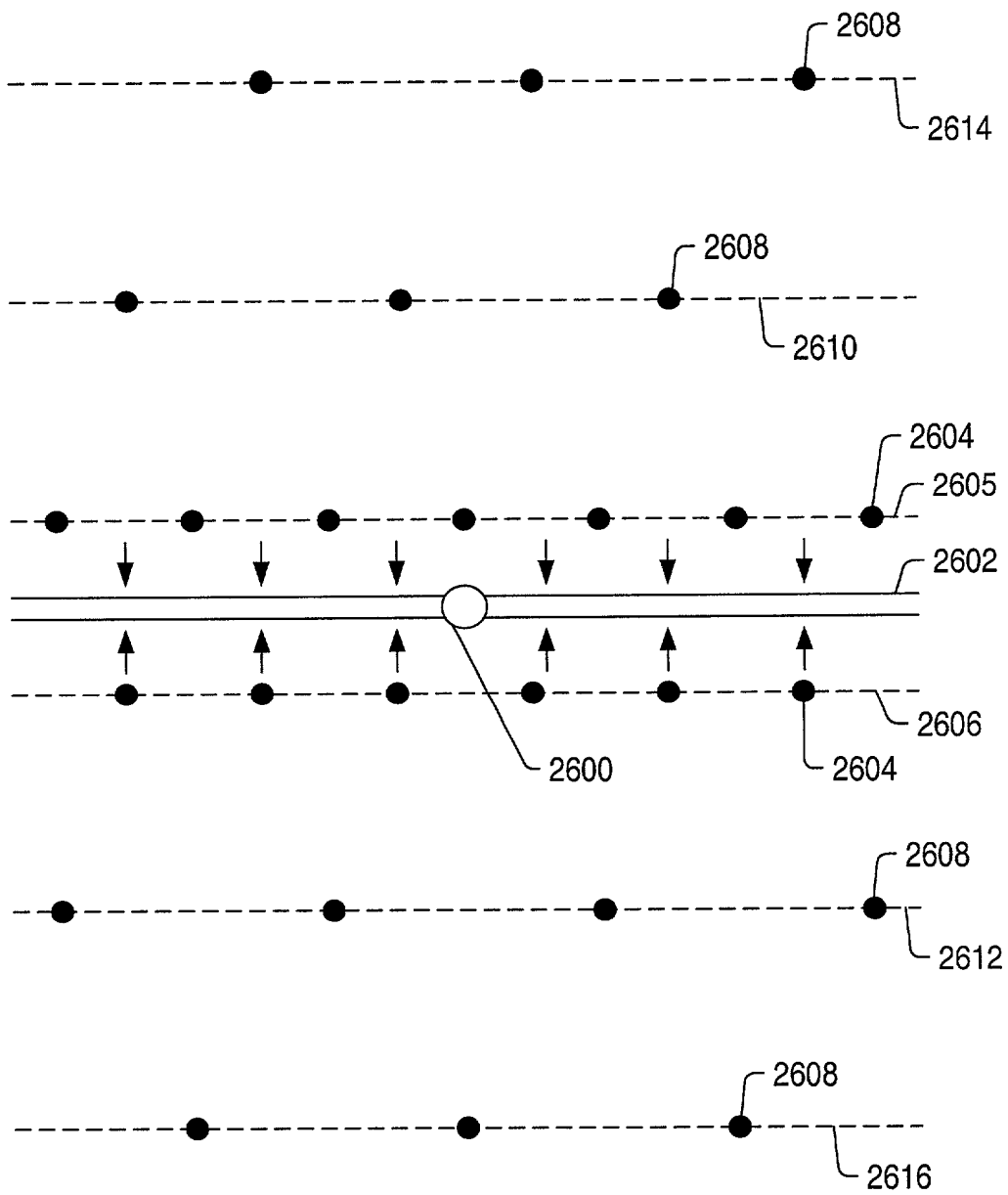


FIG. 55

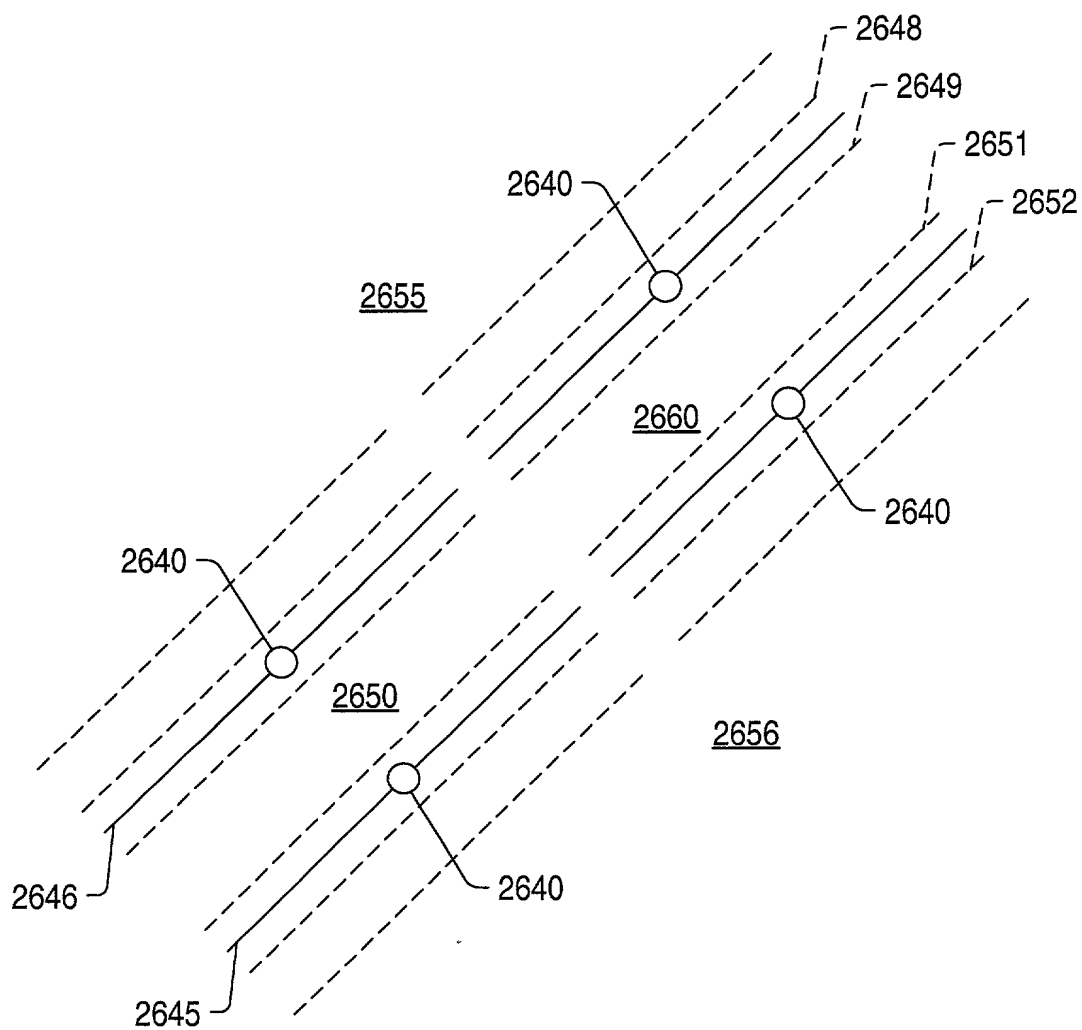


FIG. 56

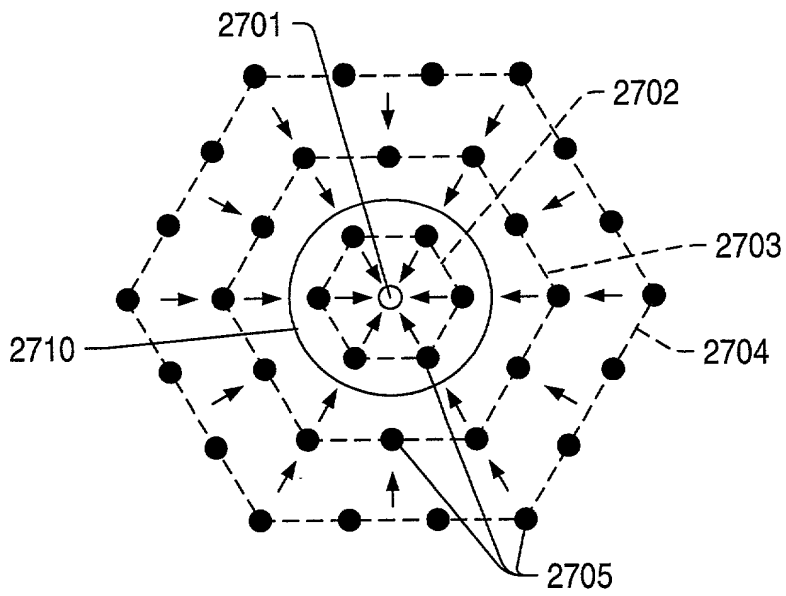


FIG. 57

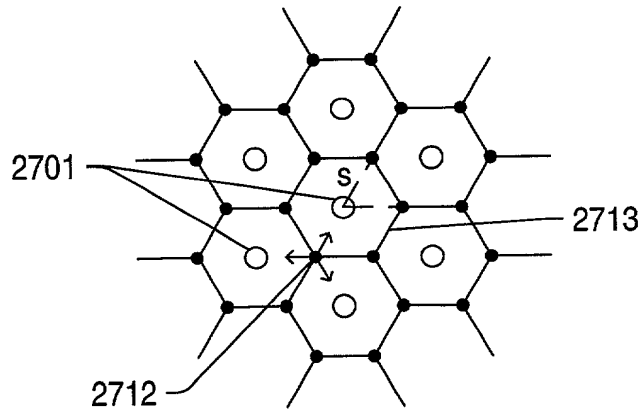


FIG. 58

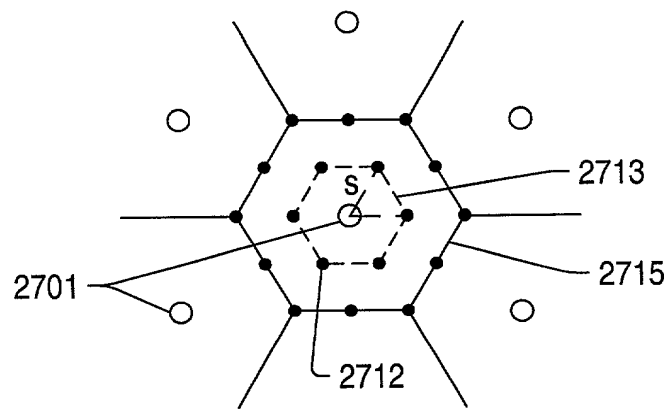


FIG. 59

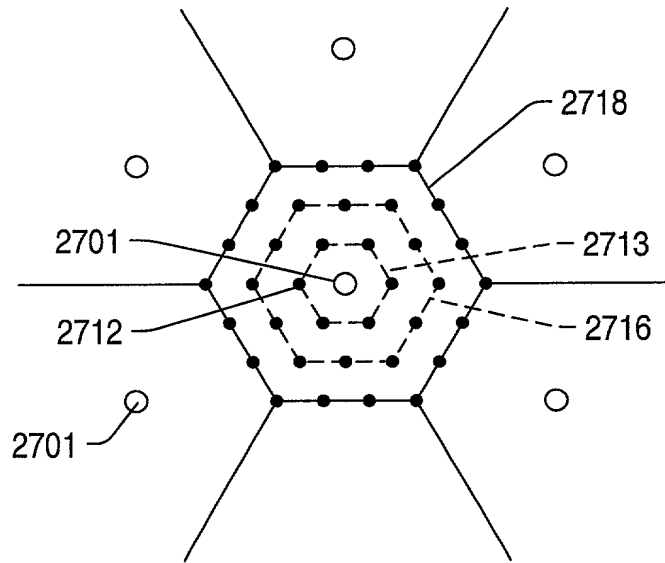


FIG. 60

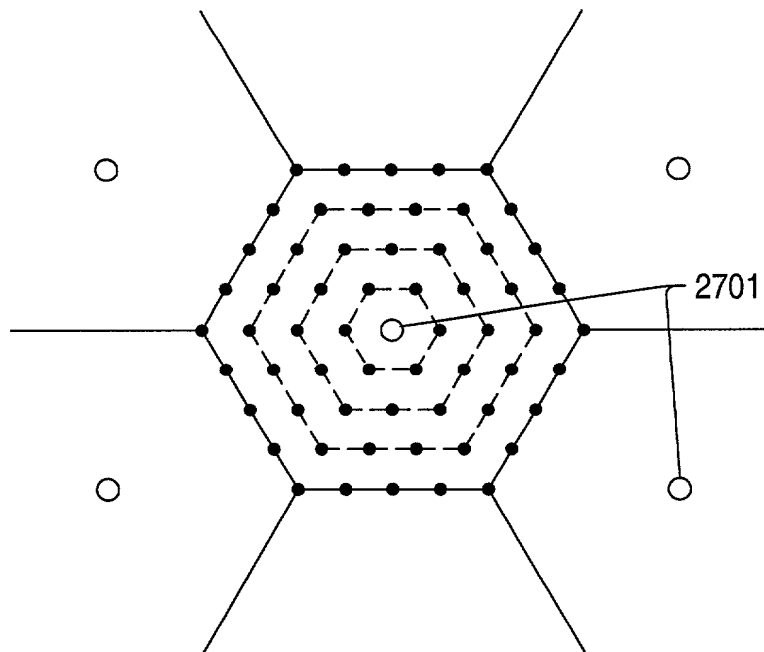


FIG. 61

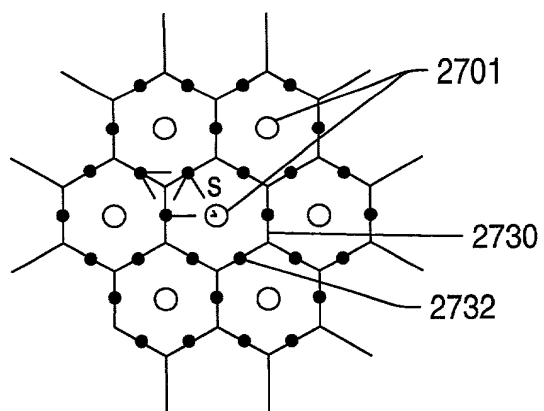


FIG. 62

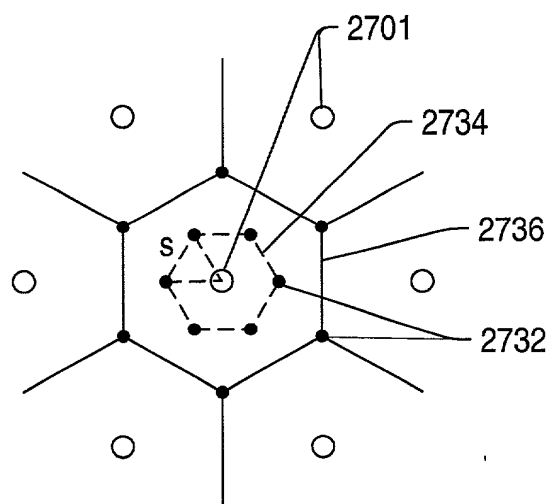


FIG. 63

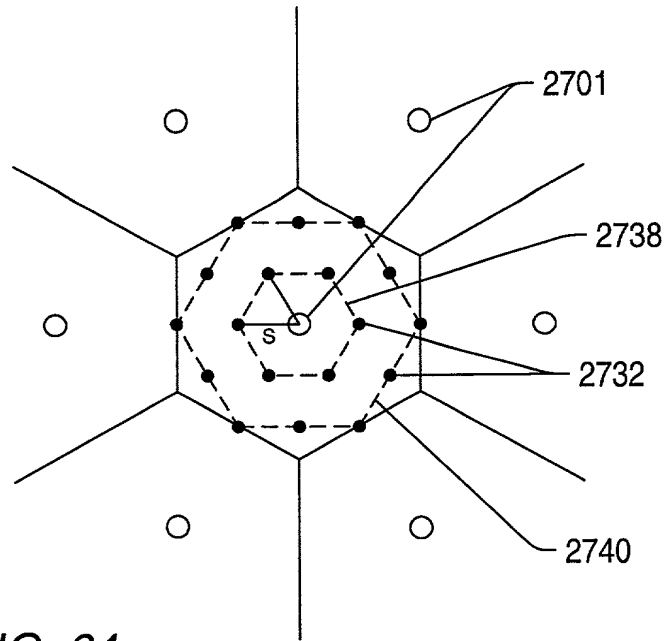


FIG. 64

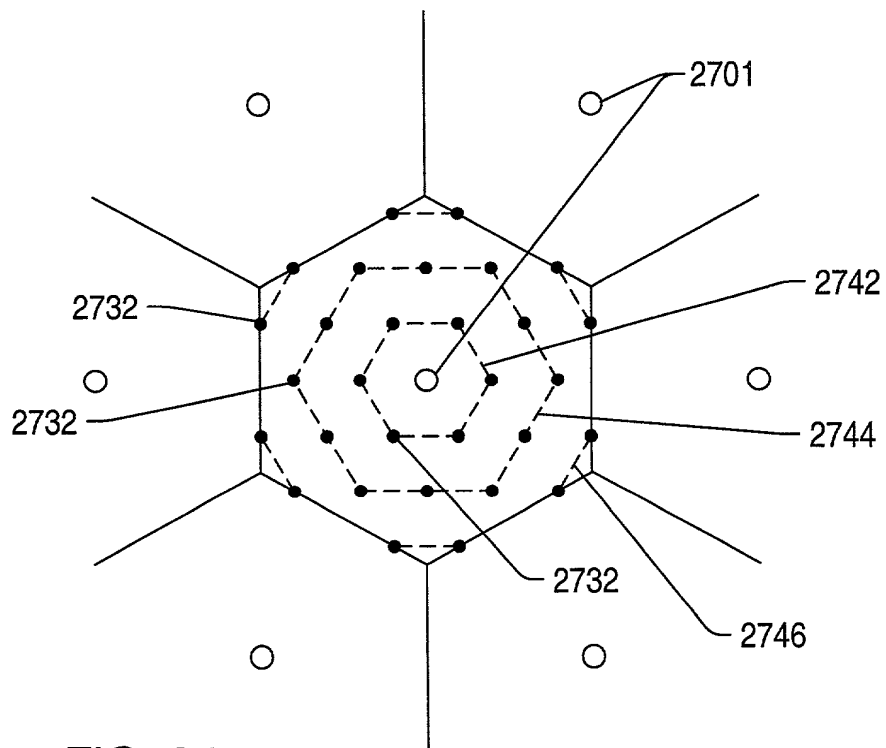


FIG. 65

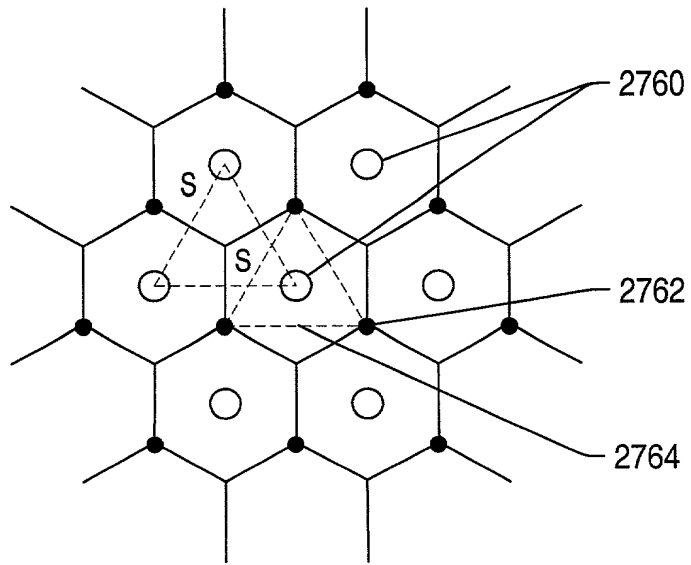


FIG. 66

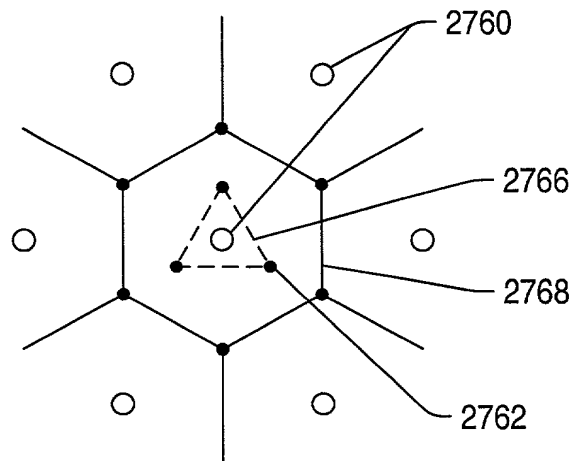


FIG. 67

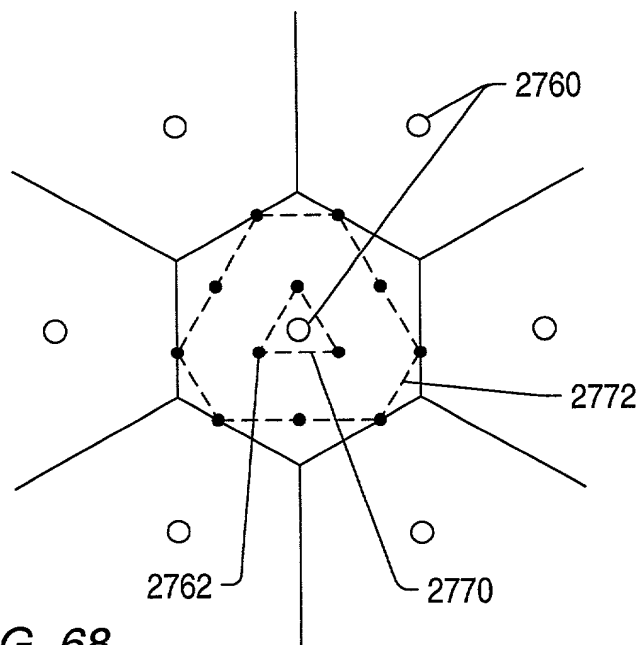


FIG. 68

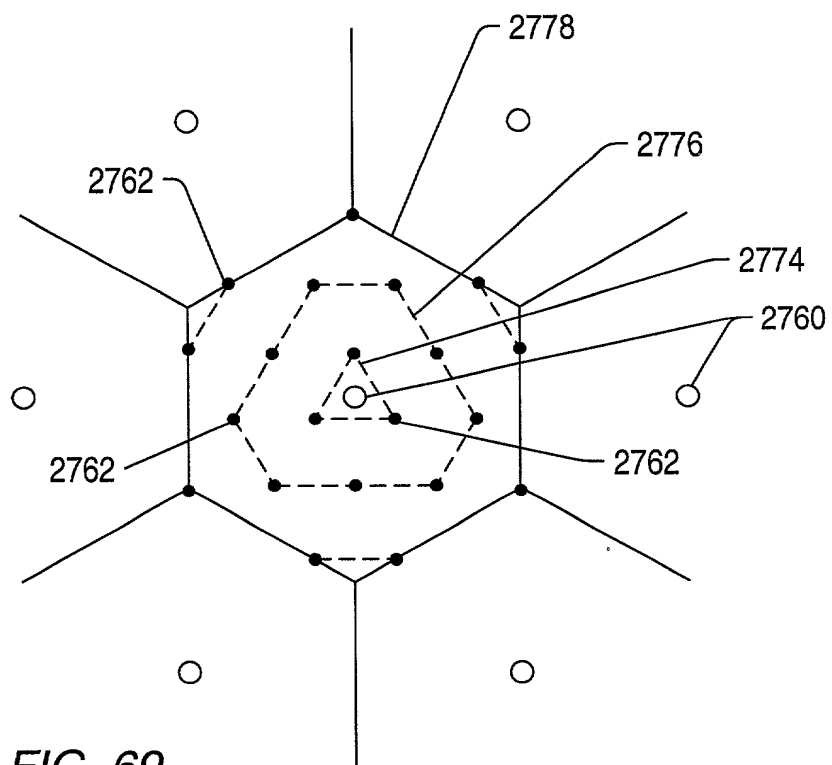


FIG. 69

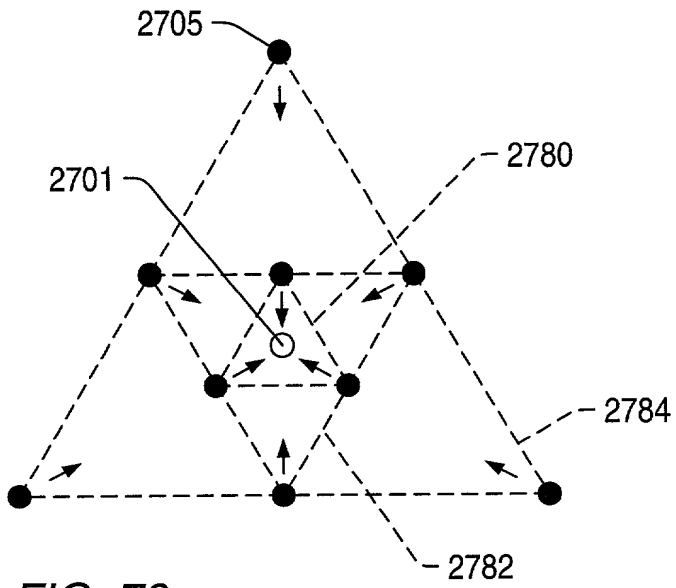


FIG. 70

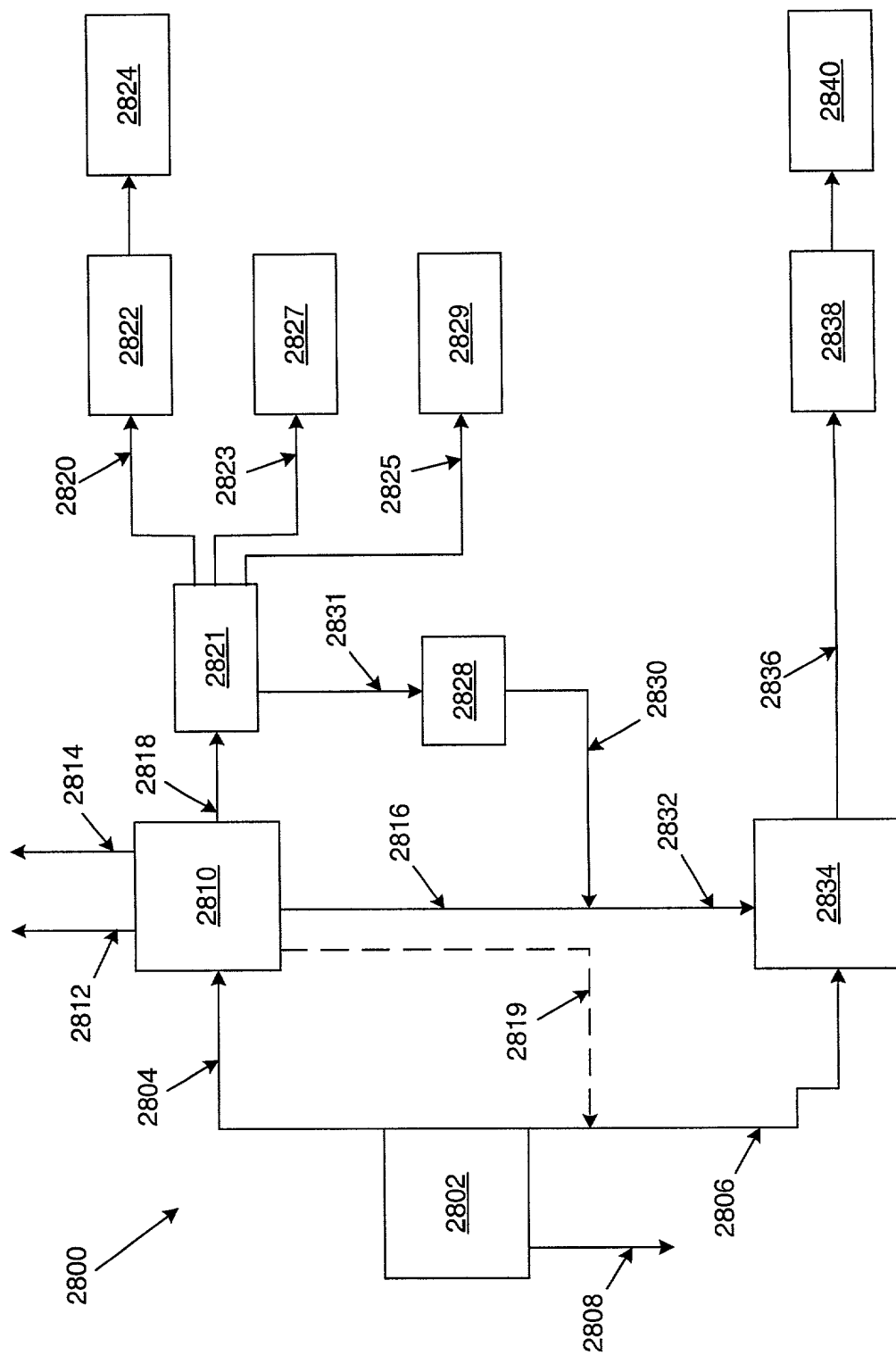


Fig. 71

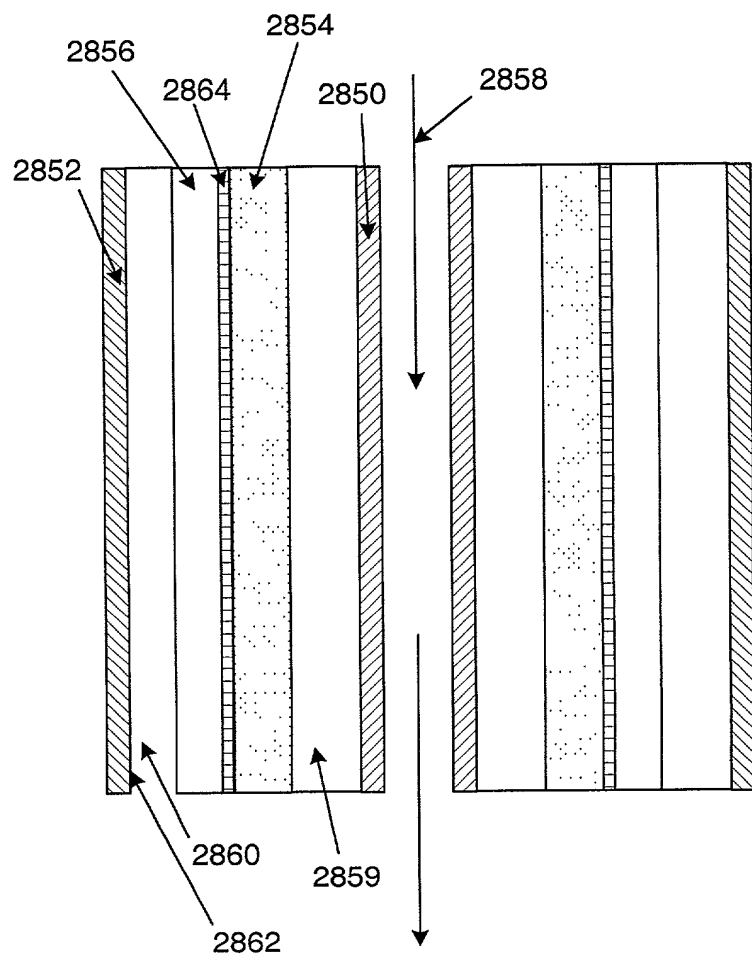


Fig. 72

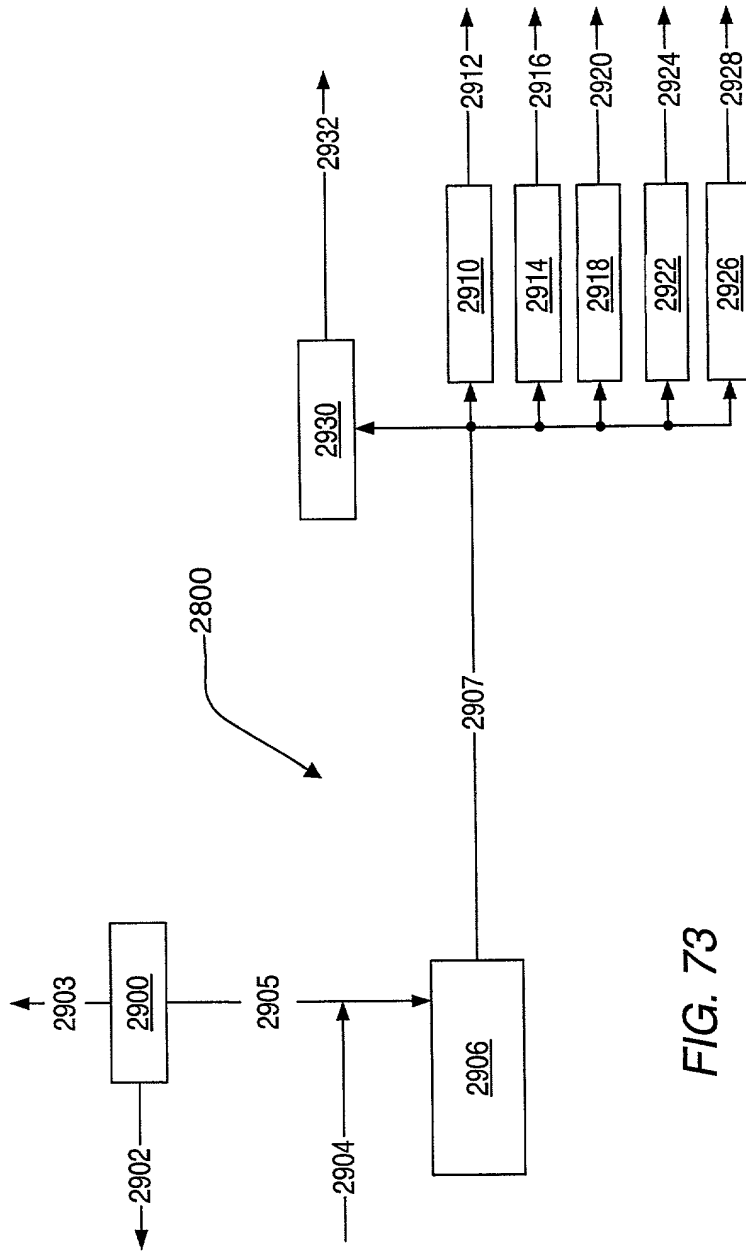


FIG. 73

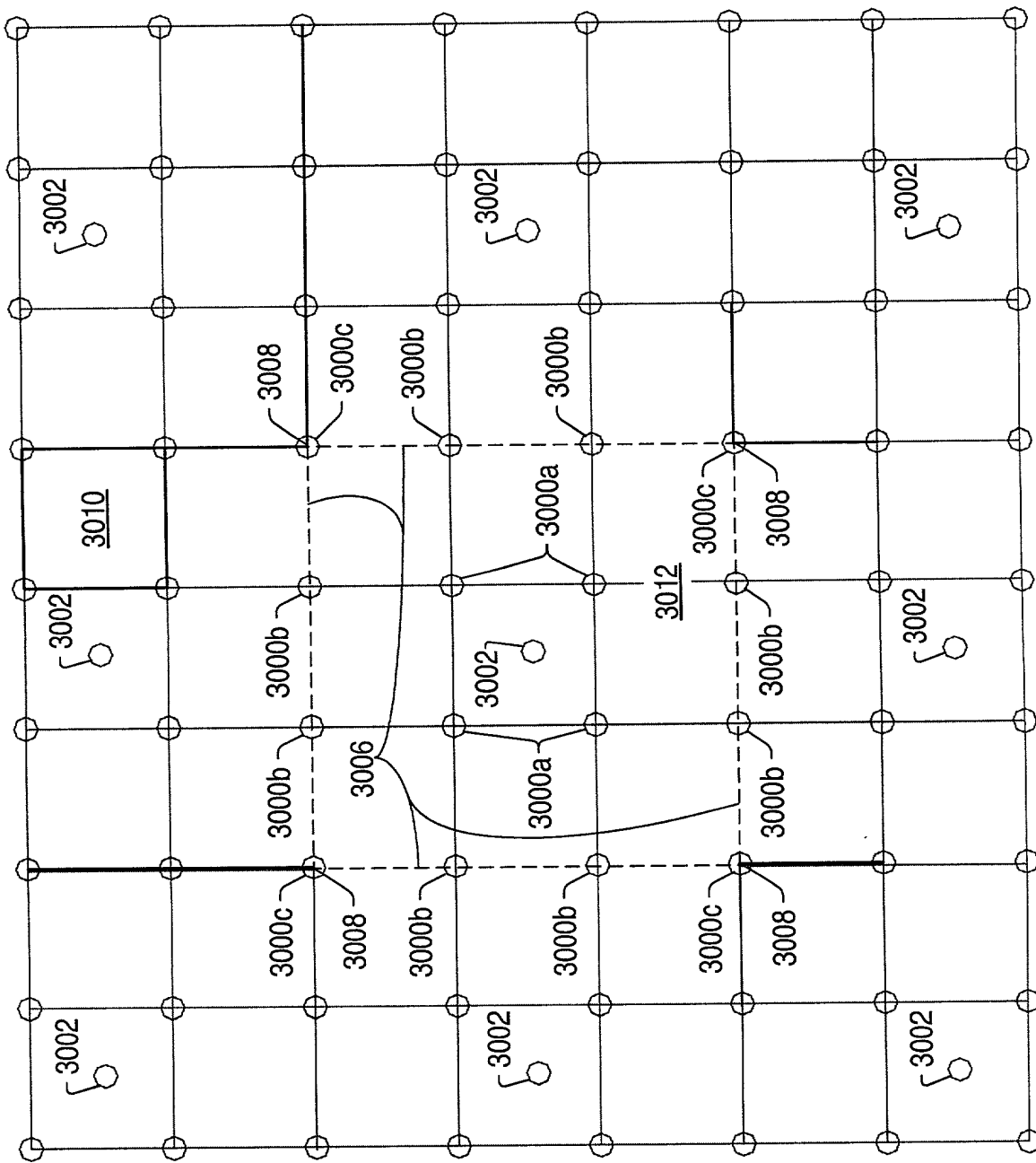


FIG. 74

FIG. 75 is a schematic diagram of a hexagonal lattice structure. The lattice is composed of hexagonal cells. A central hexagonal cell is labeled 3000. It is surrounded by six hexagonal cells, each labeled 3002. These six cells are further surrounded by a second ring of six hexagonal cells, each labeled 3006. The outermost ring consists of six hexagonal cells, each labeled 3008. The lattice is shown in a perspective view, with the hexagonal cells arranged in a honeycomb pattern. The central cell 3000 is at the top center. The cells 3002 are arranged in a ring around it. The cells 3006 are arranged in a ring around the cells 3002. The cells 3008 are arranged in a ring around the cells 3006. The lattice is shown in a perspective view, with the hexagonal cells arranged in a honeycomb pattern. The central cell 3000 is at the top center. The cells 3002 are arranged in a ring around it. The cells 3006 are arranged in a ring around the cells 3002. The cells 3008 are arranged in a ring around the cells 3006.

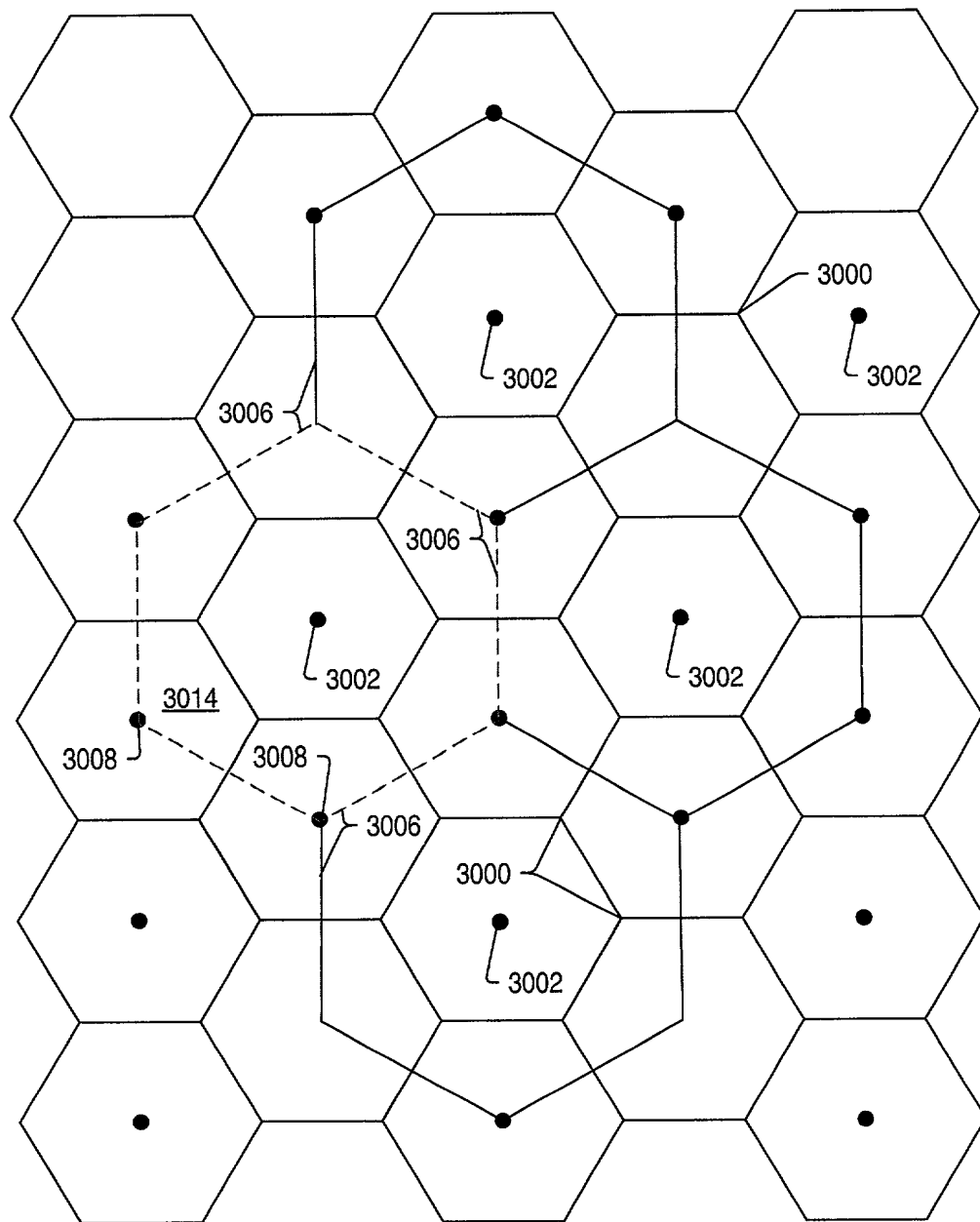


FIG. 75

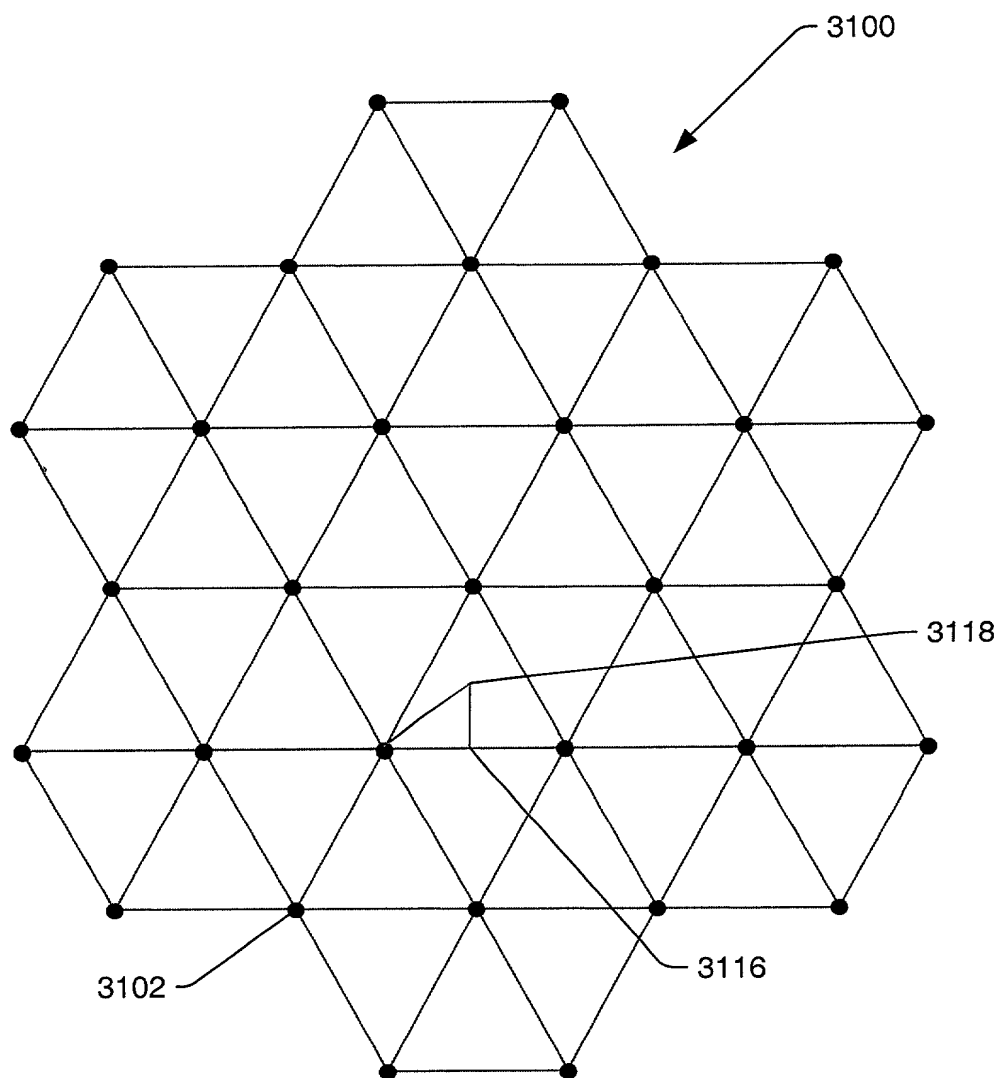


FIG. 76

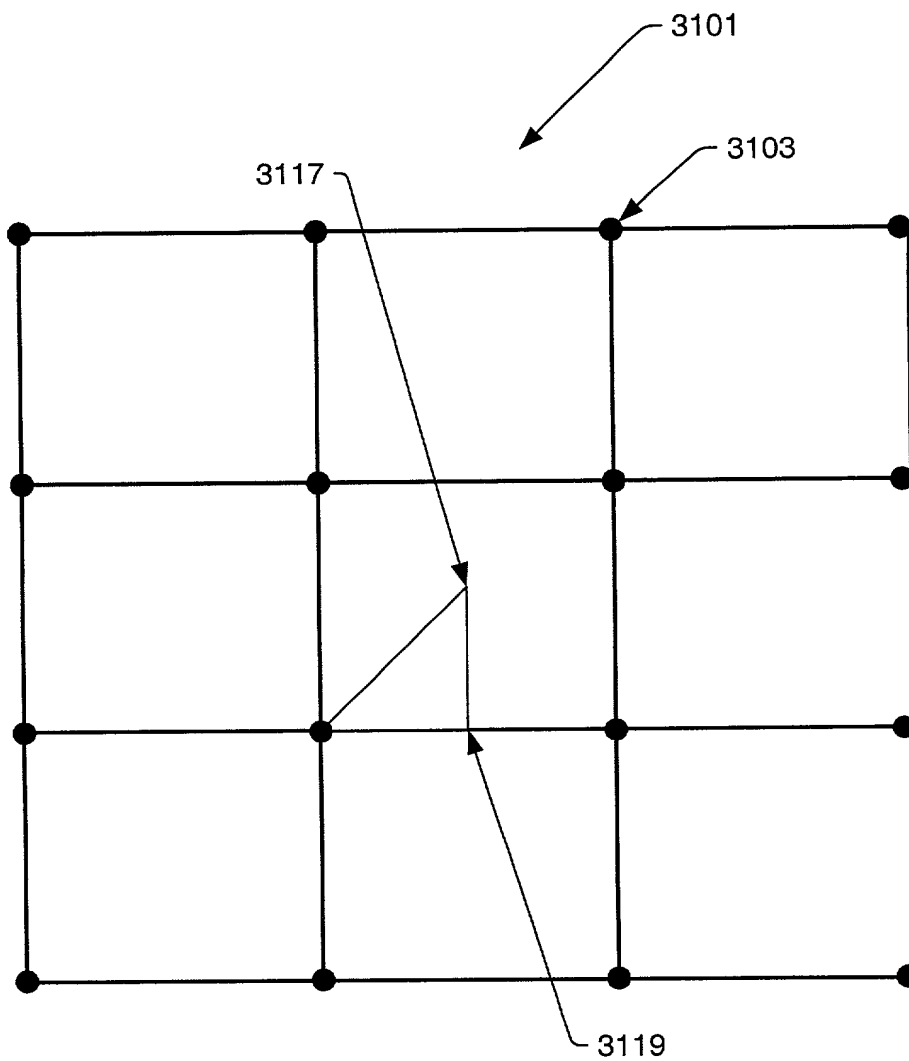


FIG. 76a

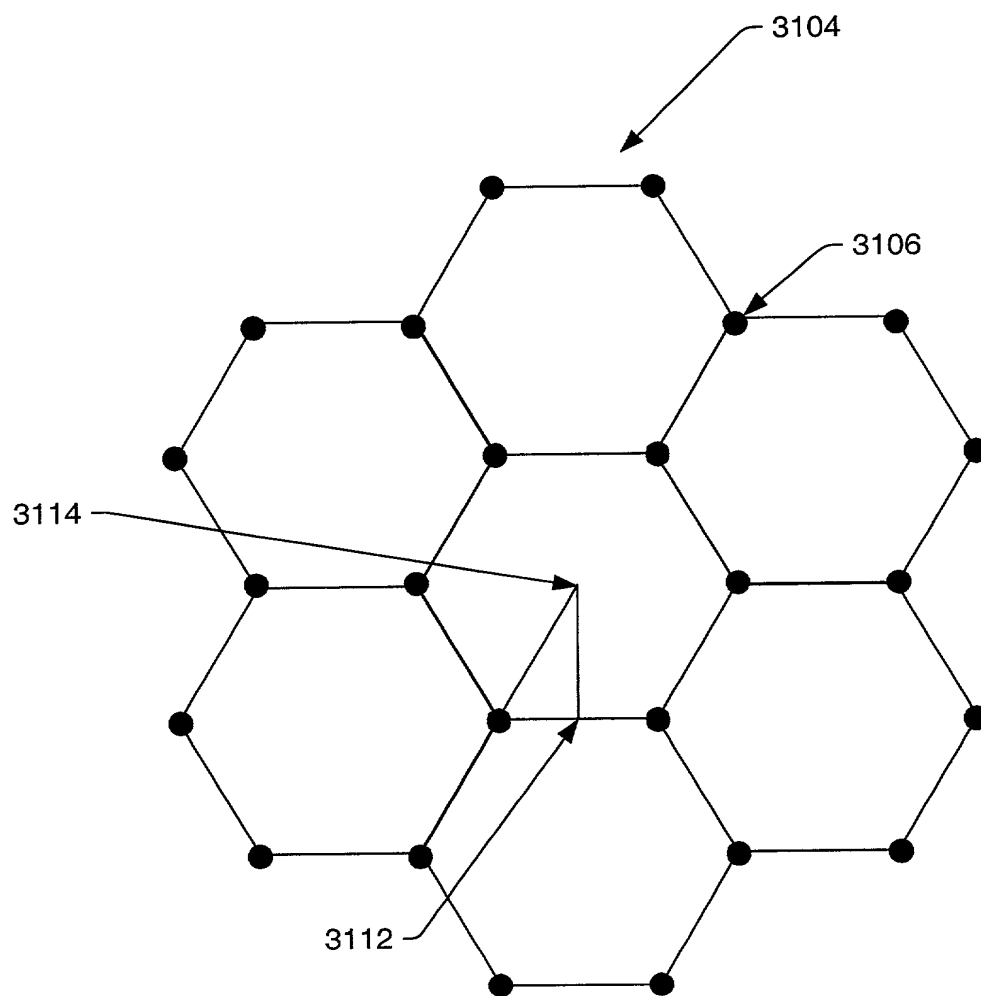


FIG. 77

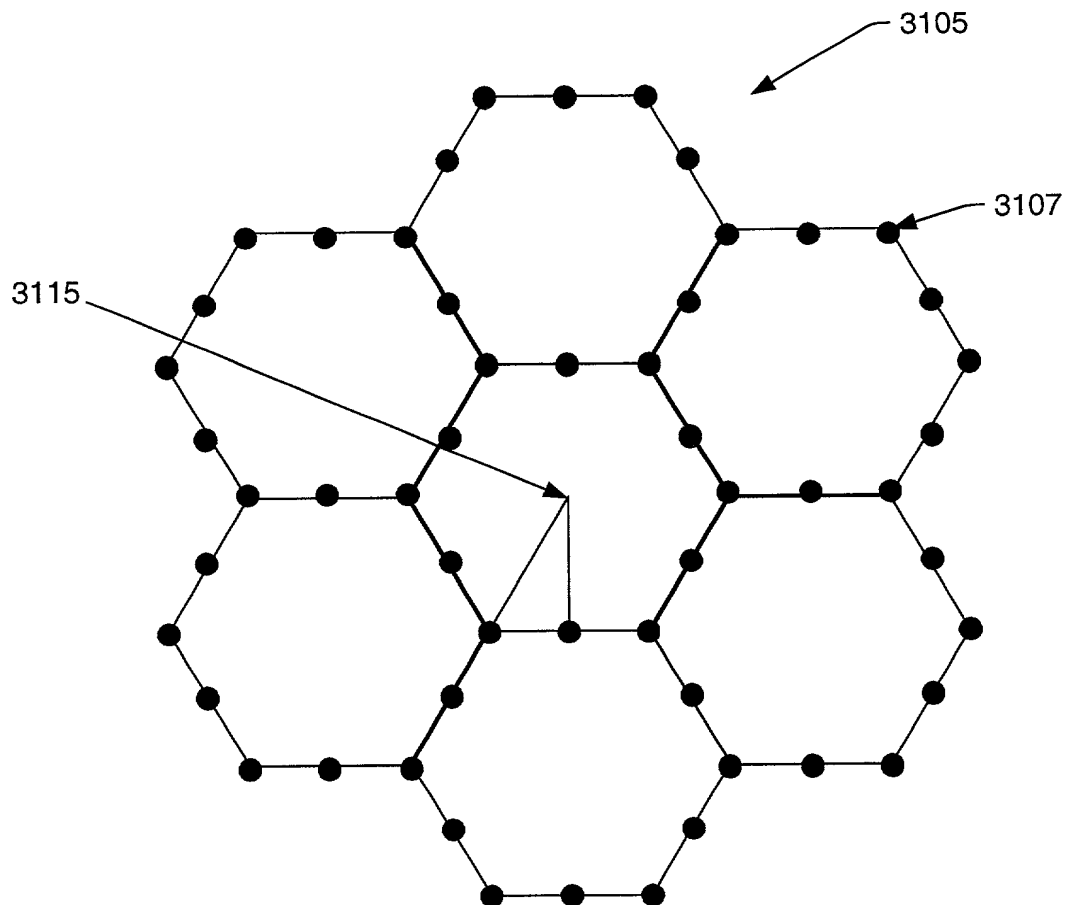


FIG. 77a

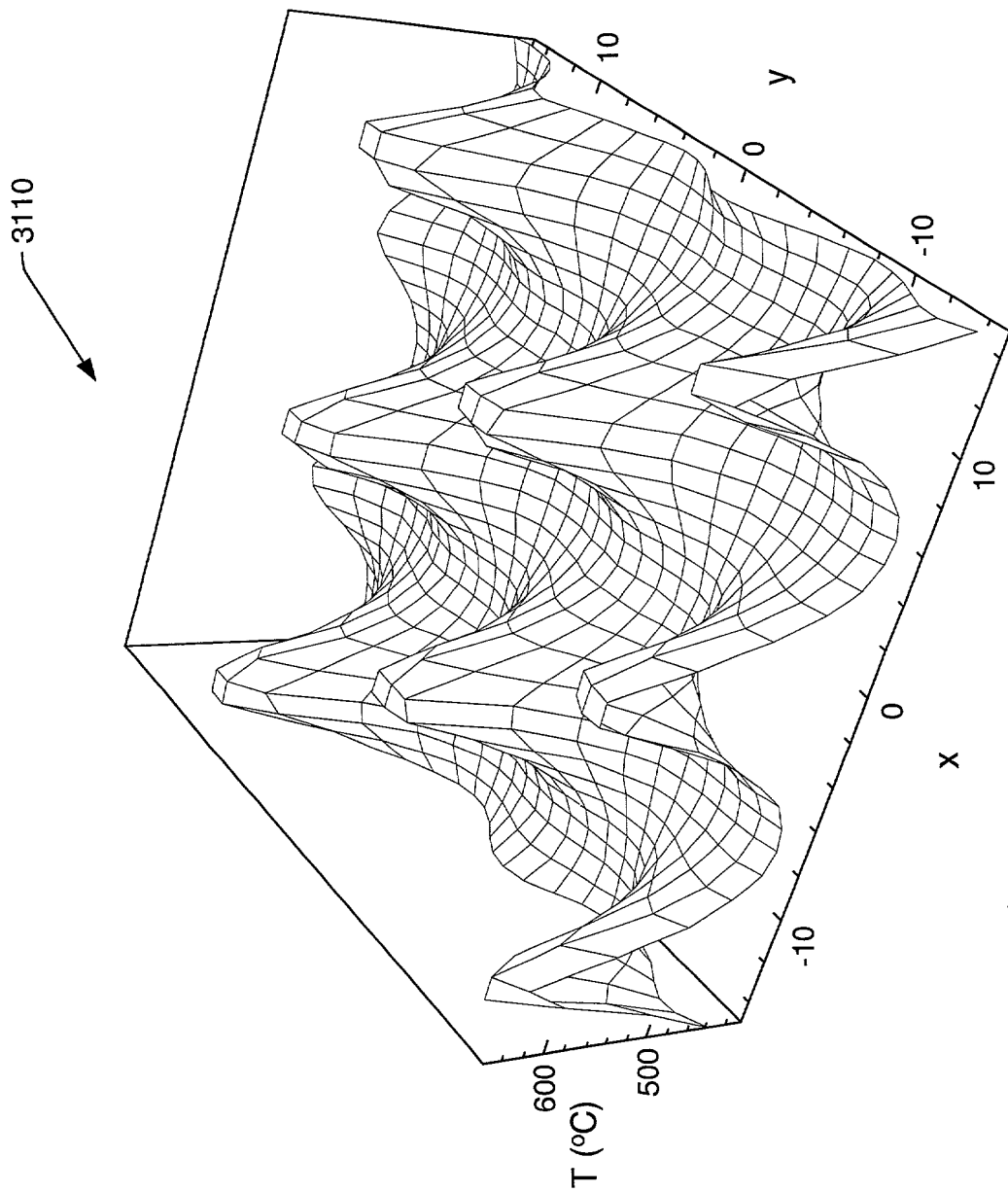


FIG. 78

3108

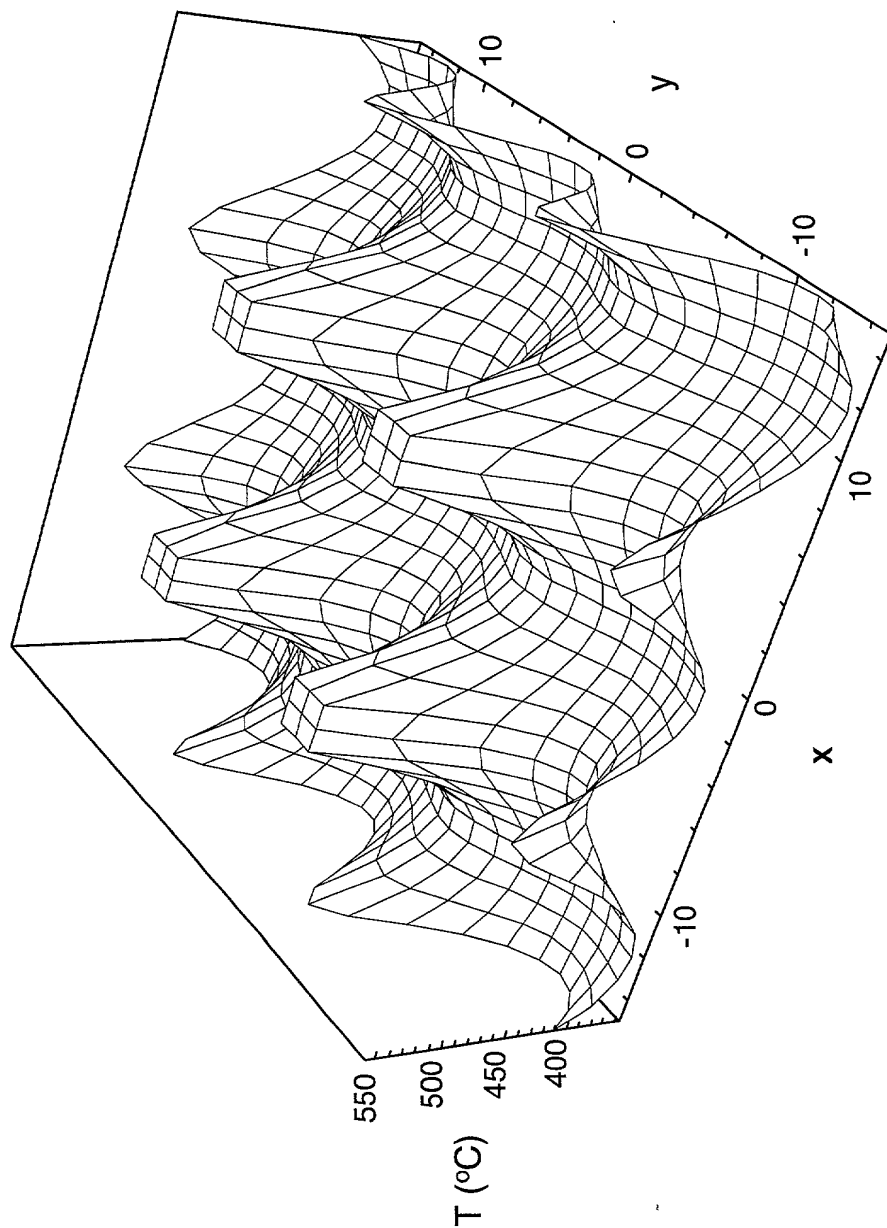


FIG. 79

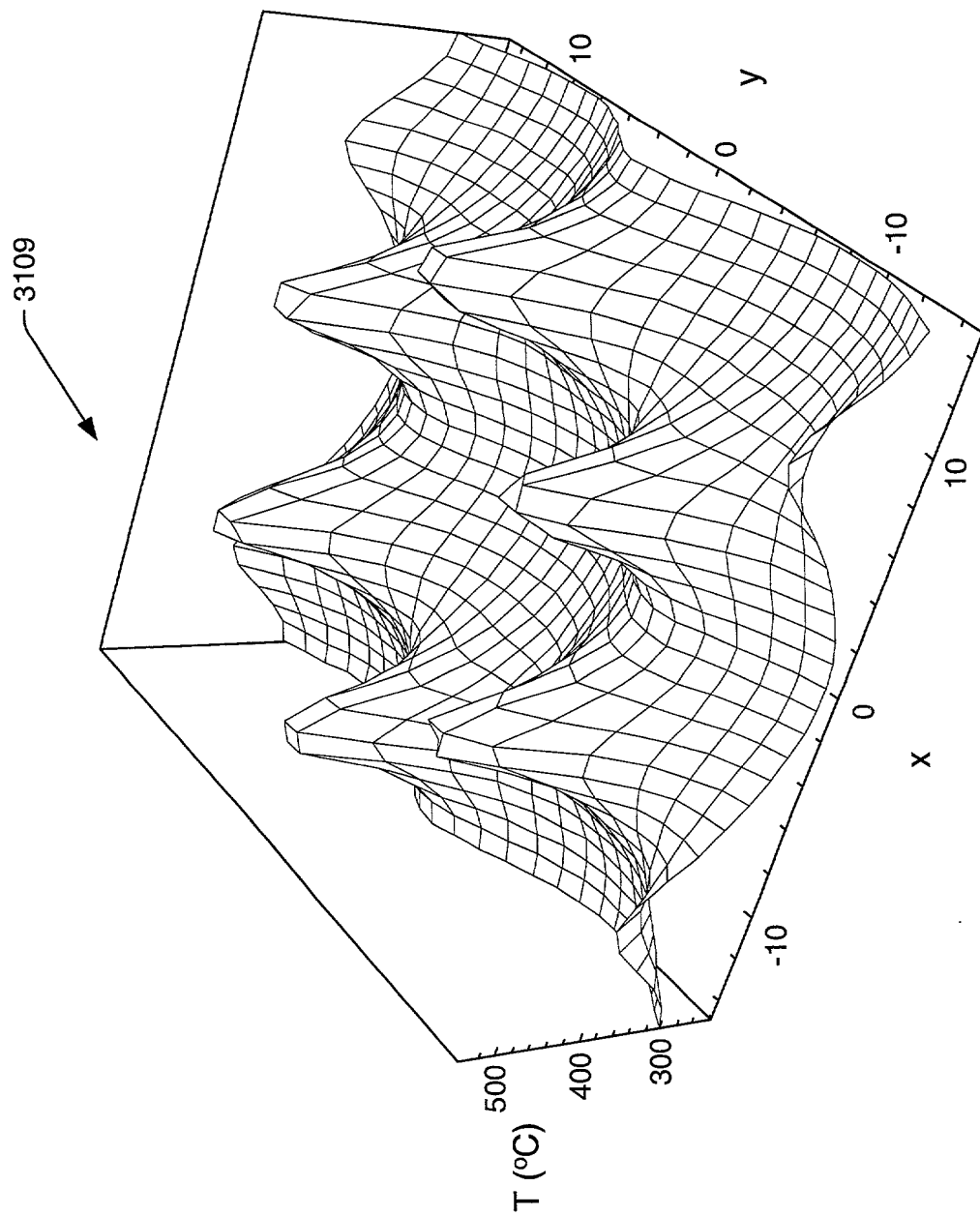


FIG. 79a

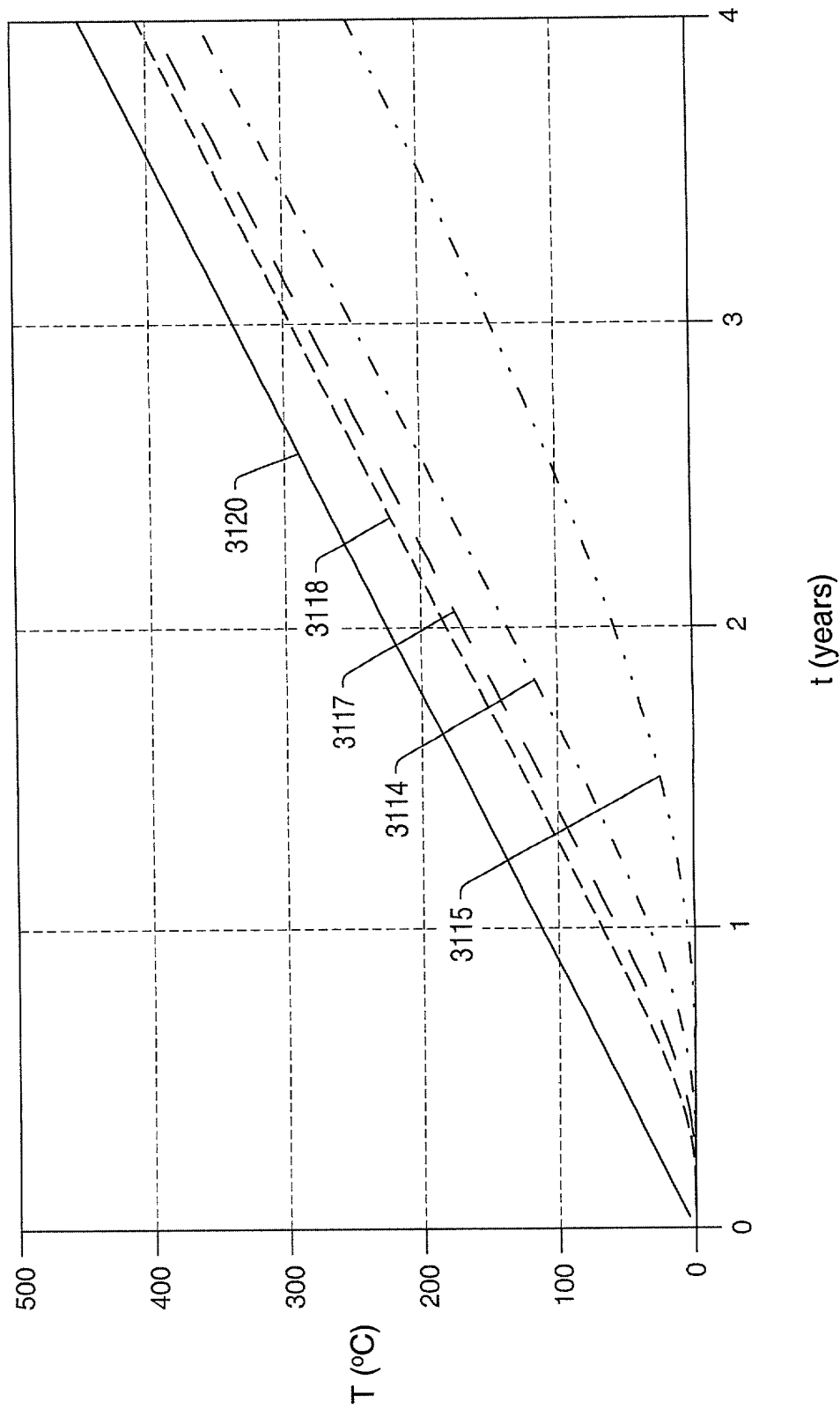


FIG. 80

FIG. 81 is a graph showing the temperature T (°C) versus time t (years) for various components. The graph includes a grid with dashed lines. The y-axis represents temperature T in degrees Celsius, ranging from 0 to 500. The x-axis represents time t in years, ranging from 0 to 4. Five curves are plotted, labeled 3114, 3118, 3116, 3112, and 3120, representing different components. All curves show a linear increase in temperature over time, starting from 0°C at t=0. Curve 3114 is the steepest, reaching approximately 450°C at t=4. Curve 3118 is the least steep, reaching approximately 150°C at t=4. Curves 3116, 3112, and 3120 fall between these two extremes.

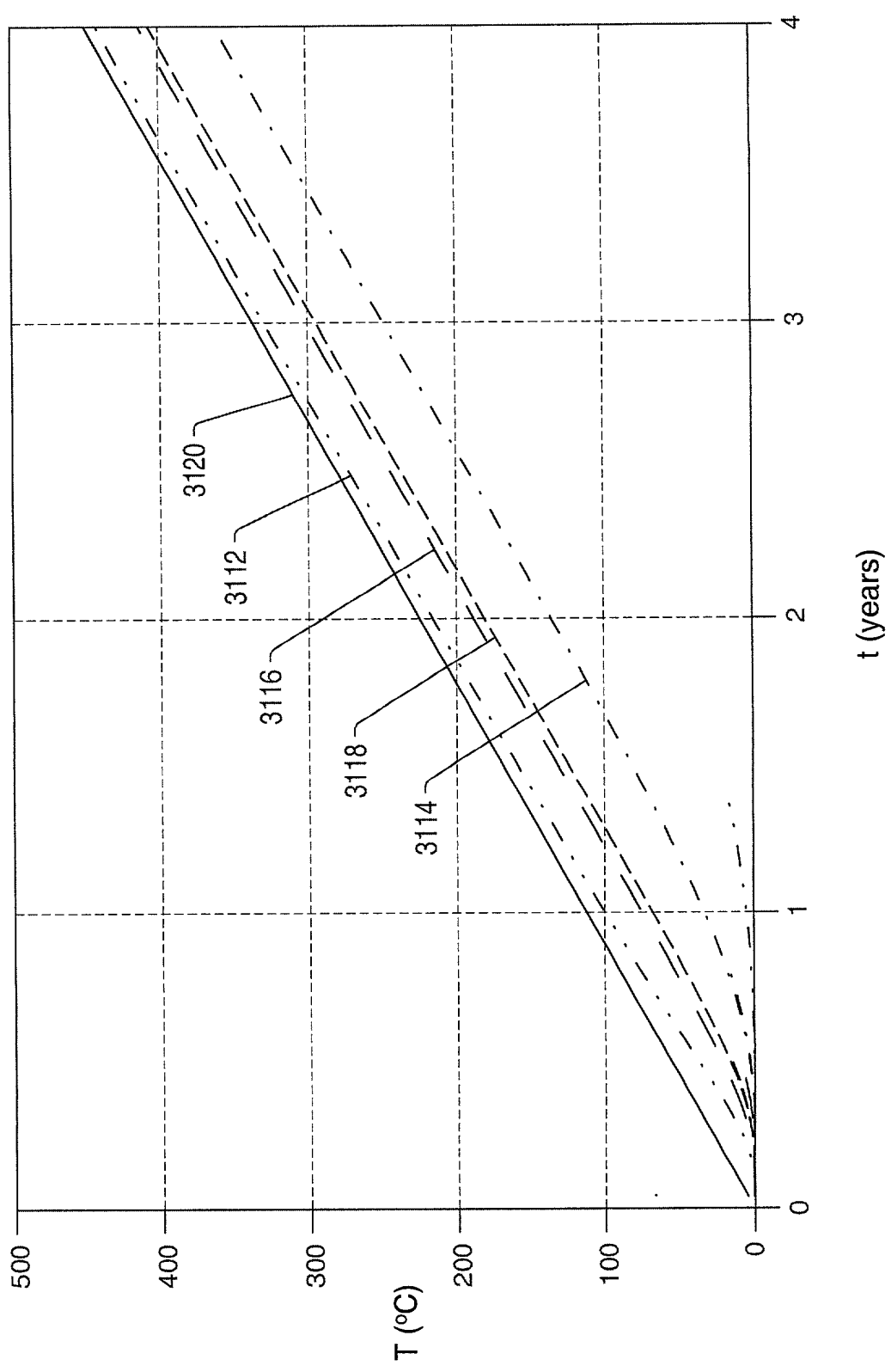


FIG. 81

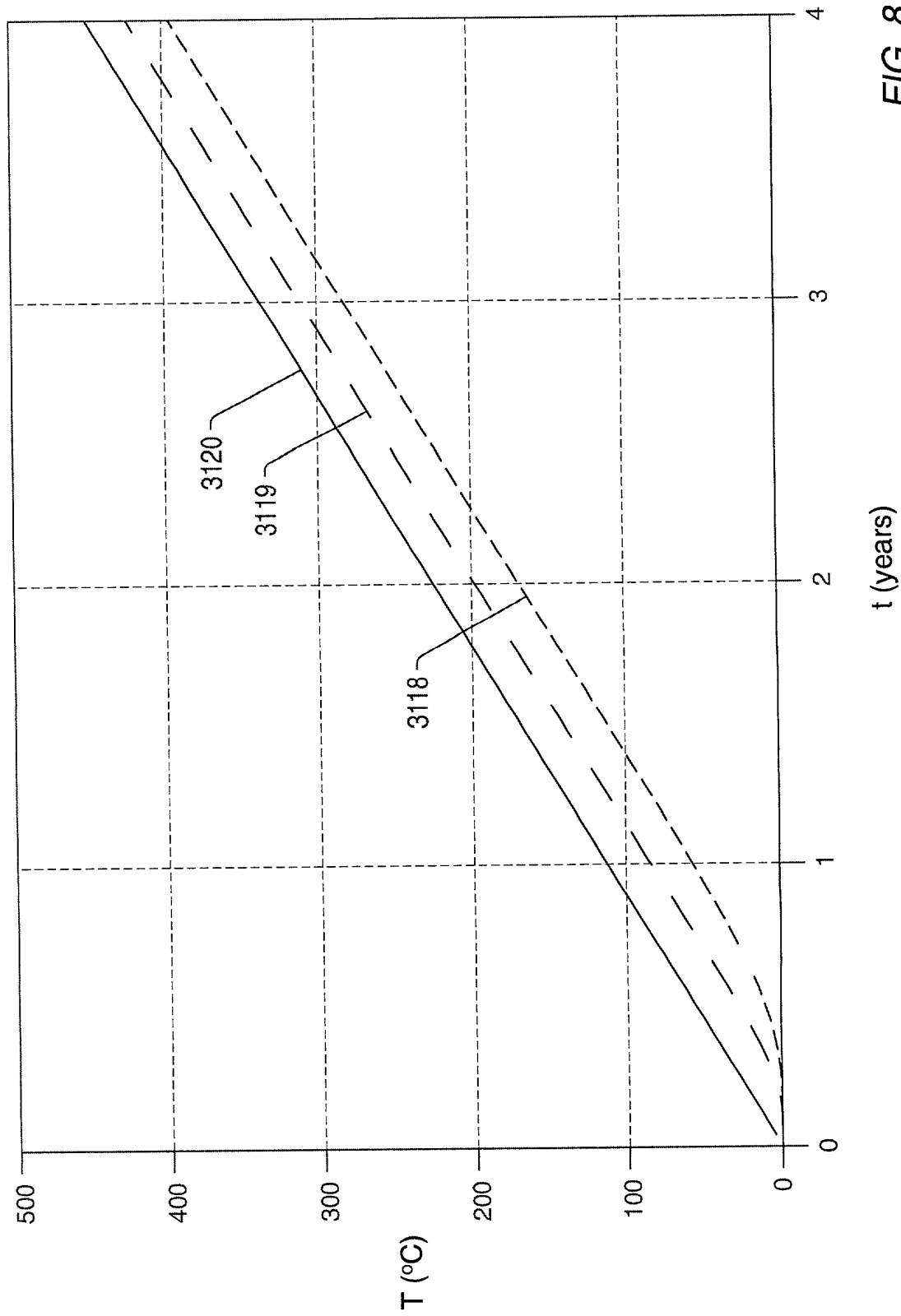


FIG. 81a

FIG. 81b

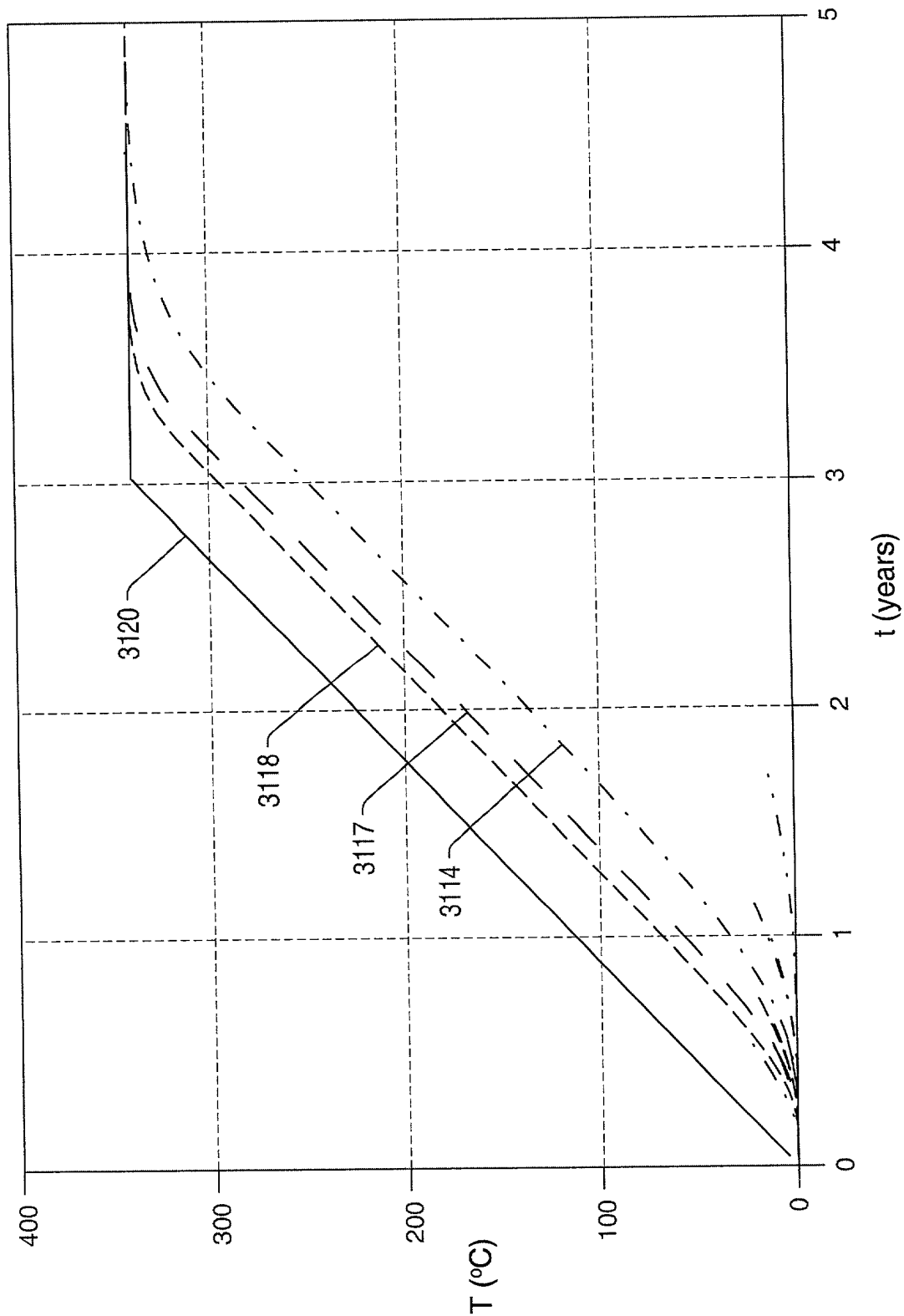


FIG. 81b

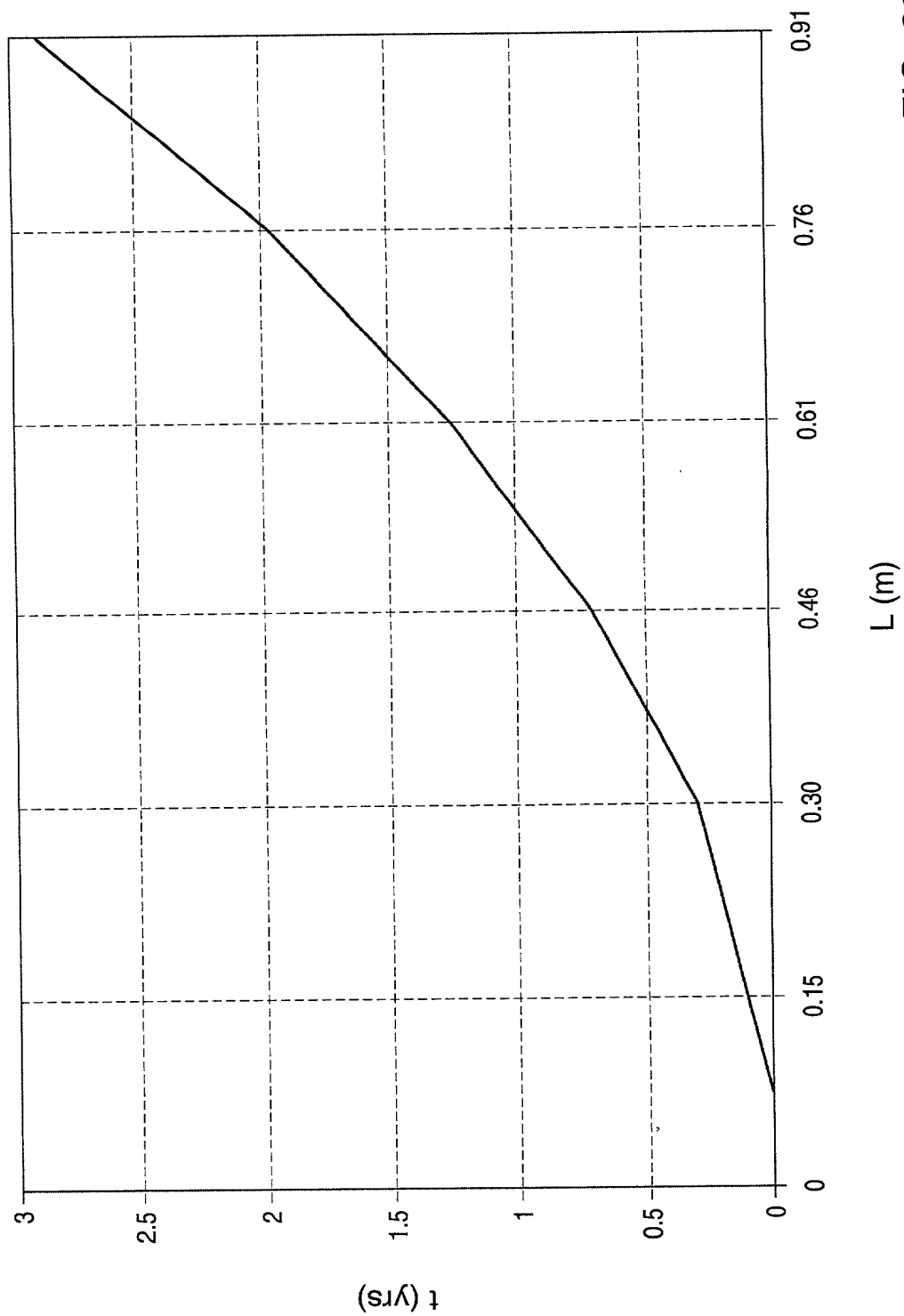


FIG. 82

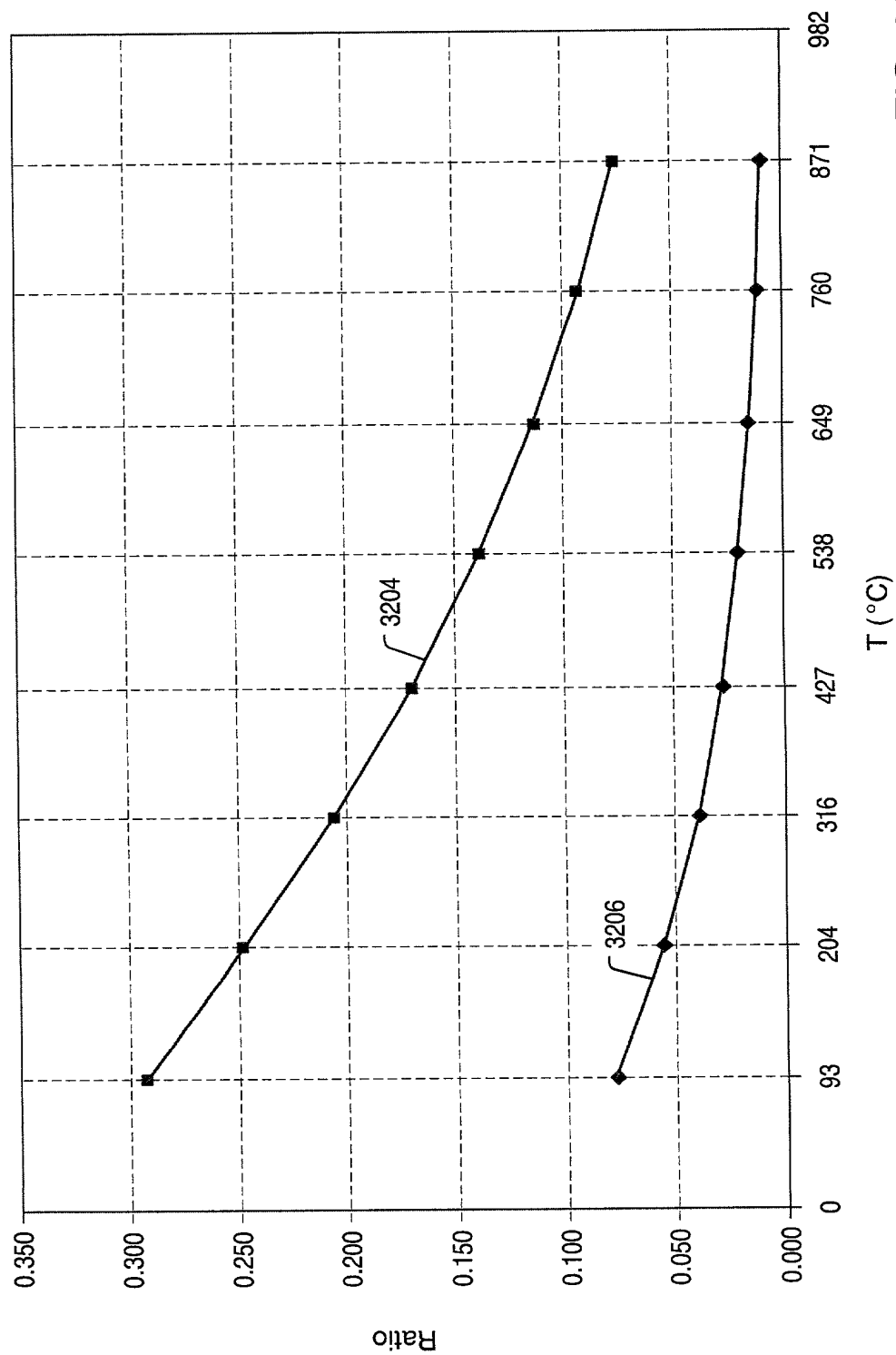


FIG. 83

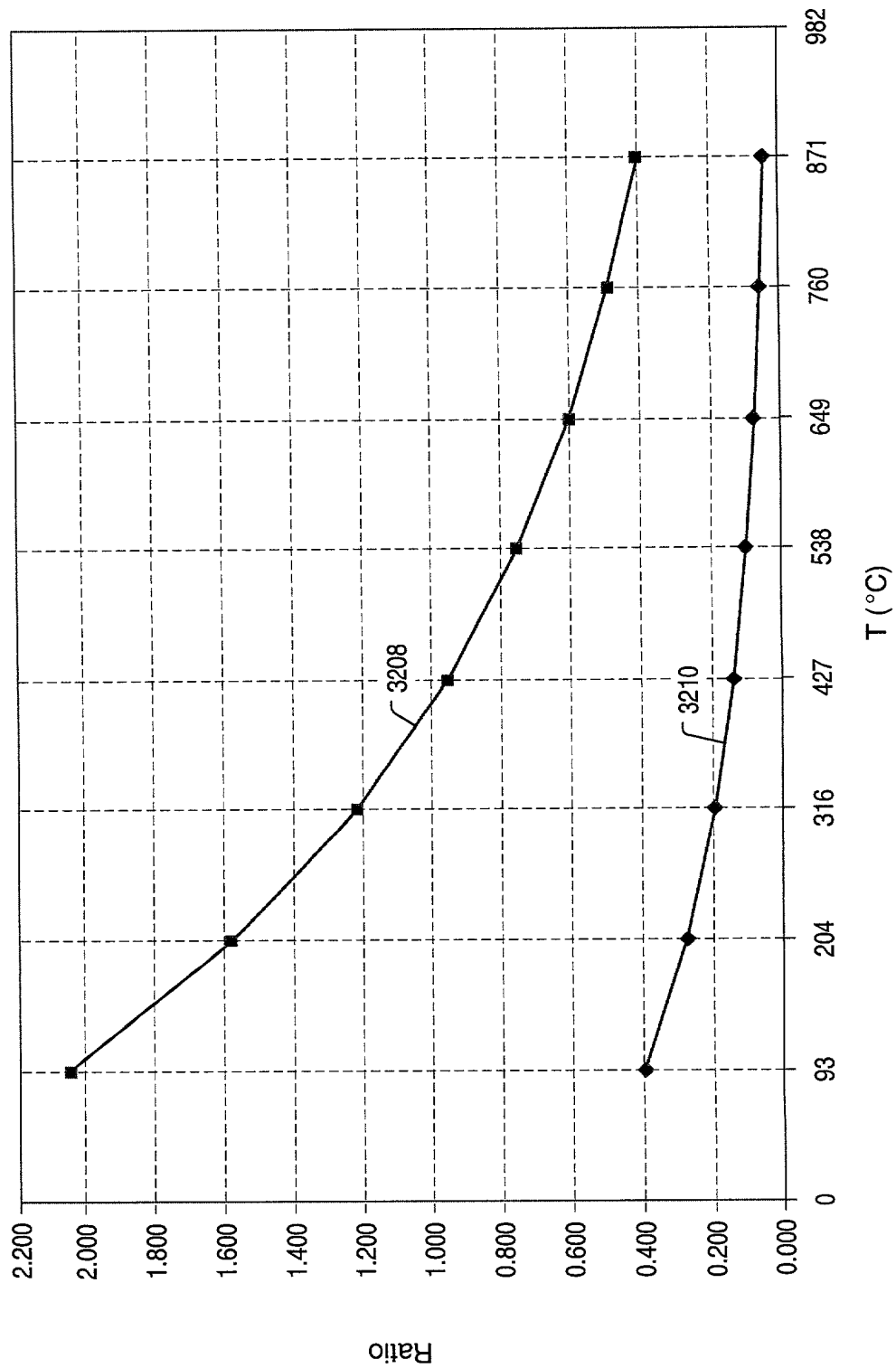


FIG. 84

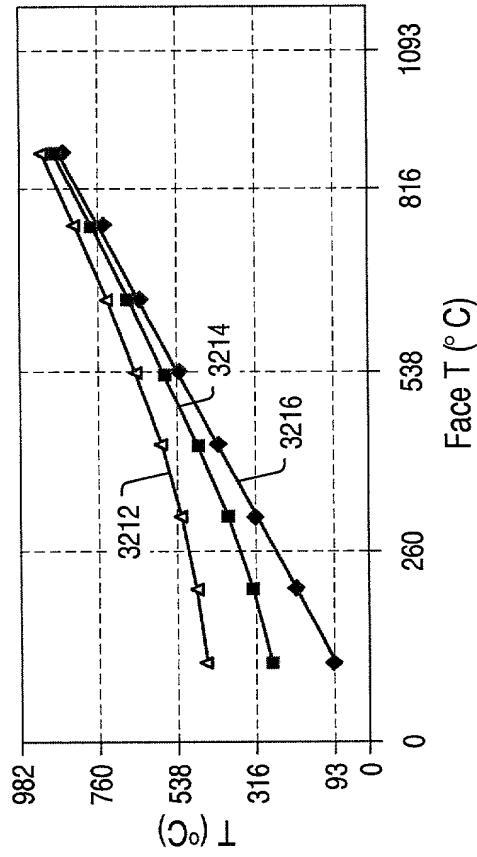


FIG. 85

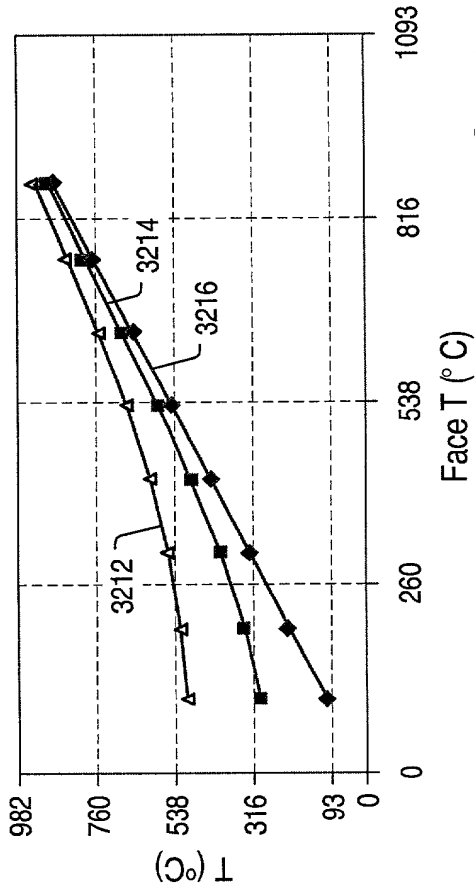


FIG. 86

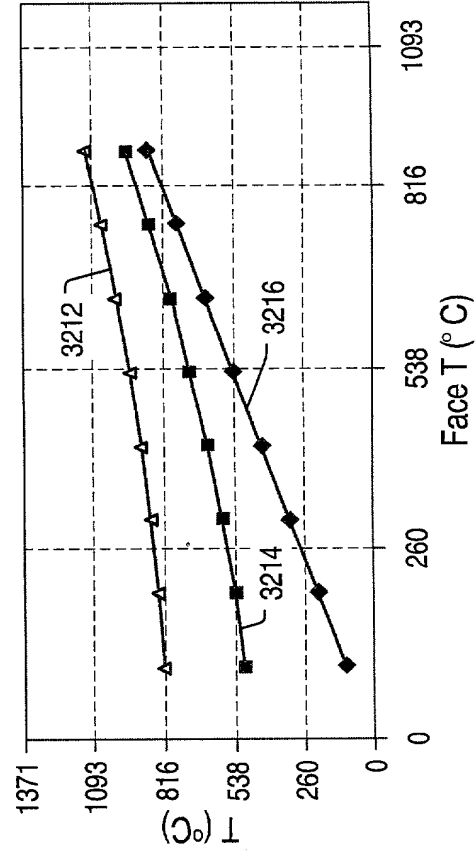


FIG. 87

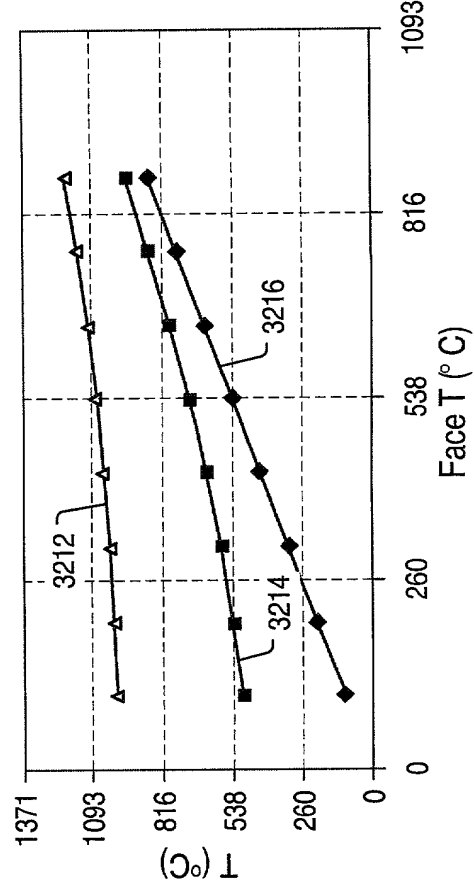


FIG. 88

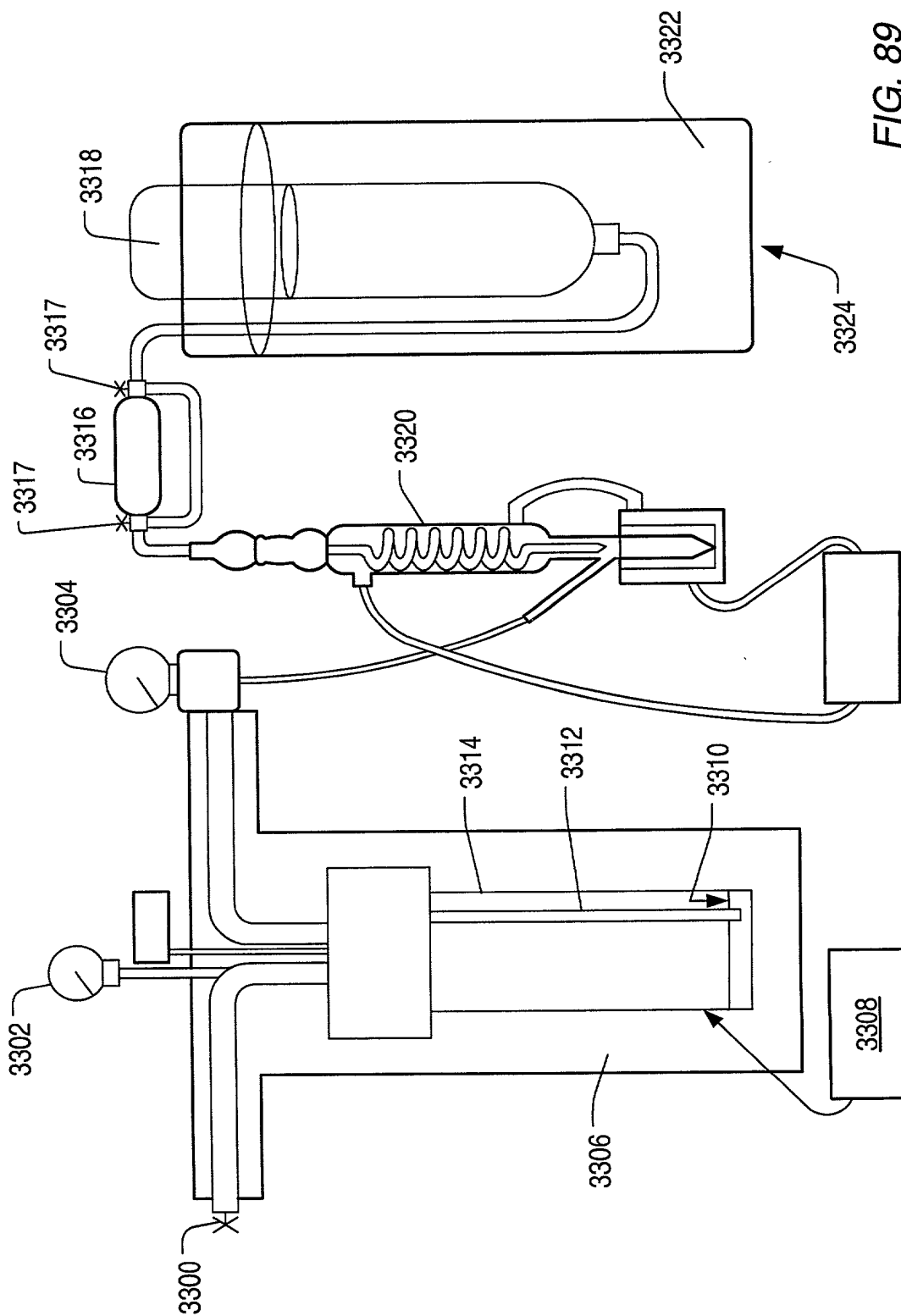


FIG. 89

300 325 350 375 400

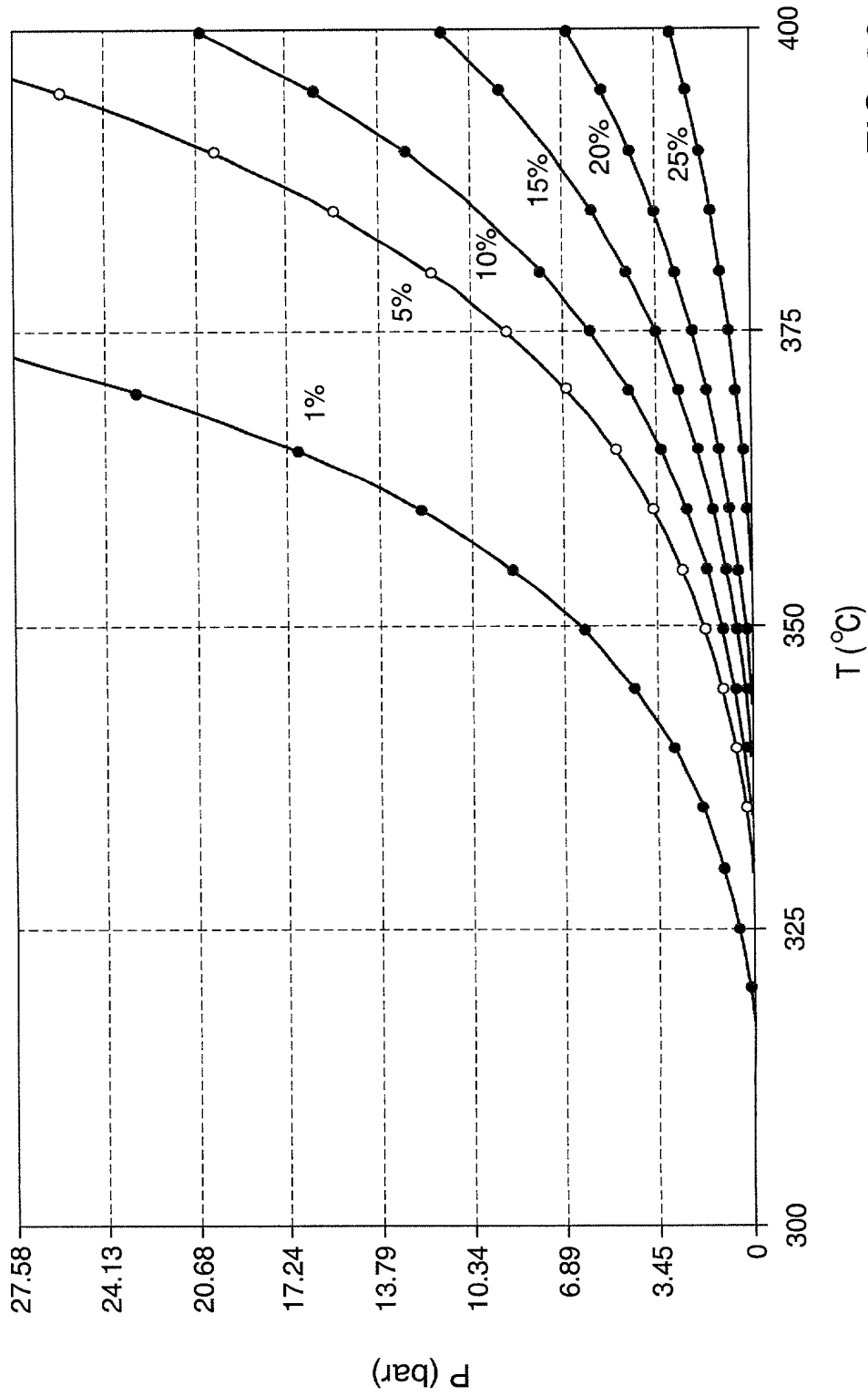


FIG. 90

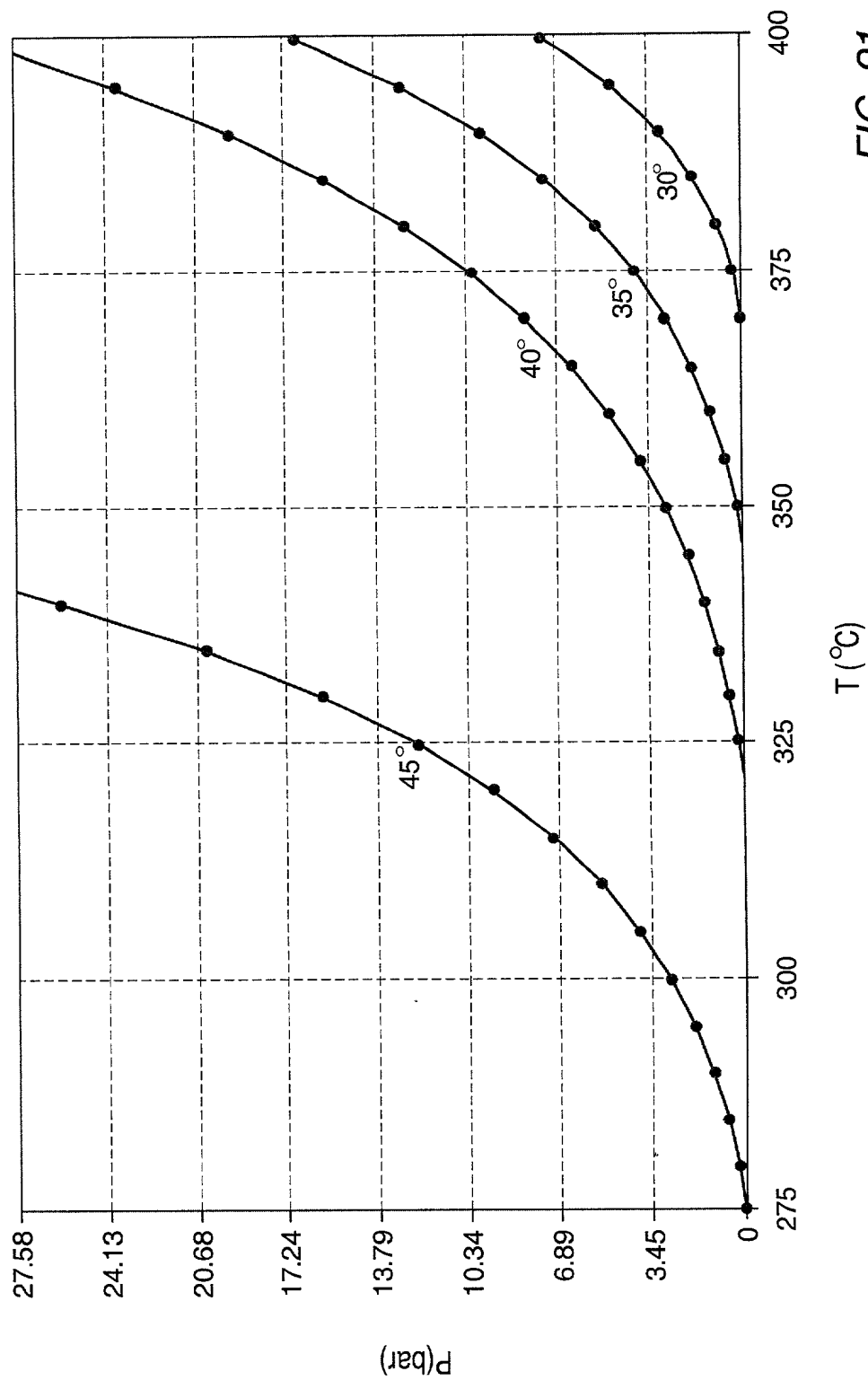


FIG. 91

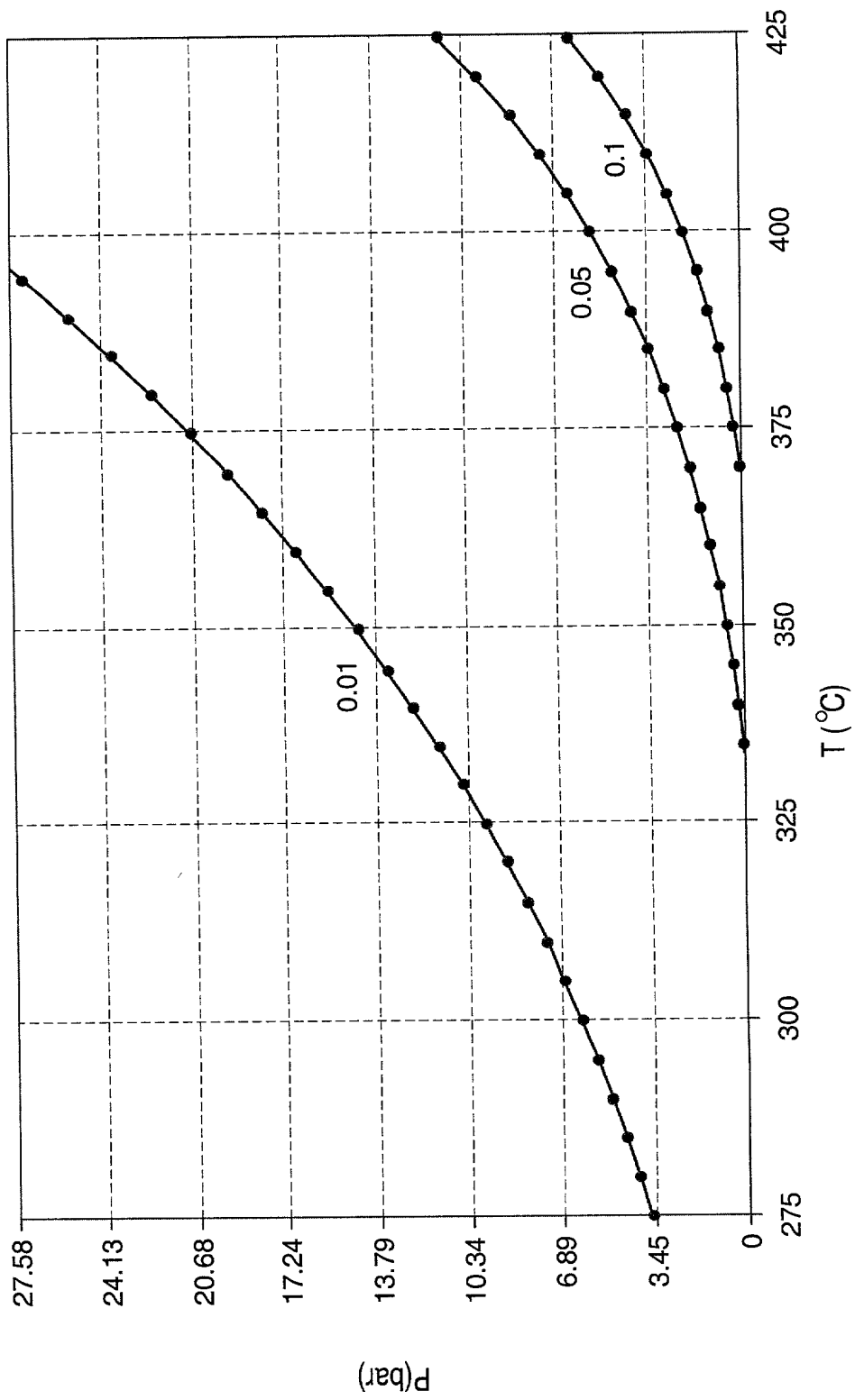


FIG. 92

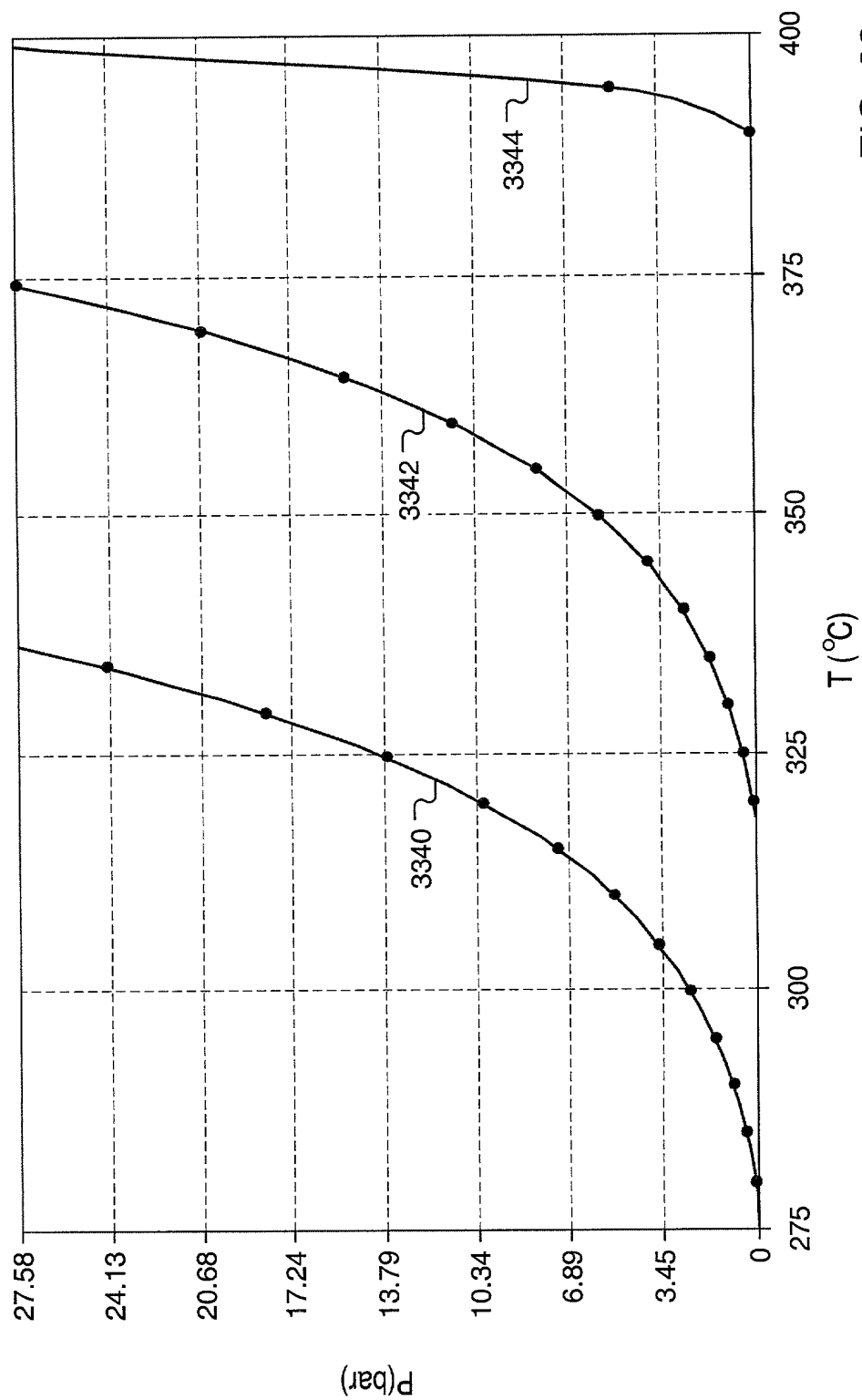


FIG. 93

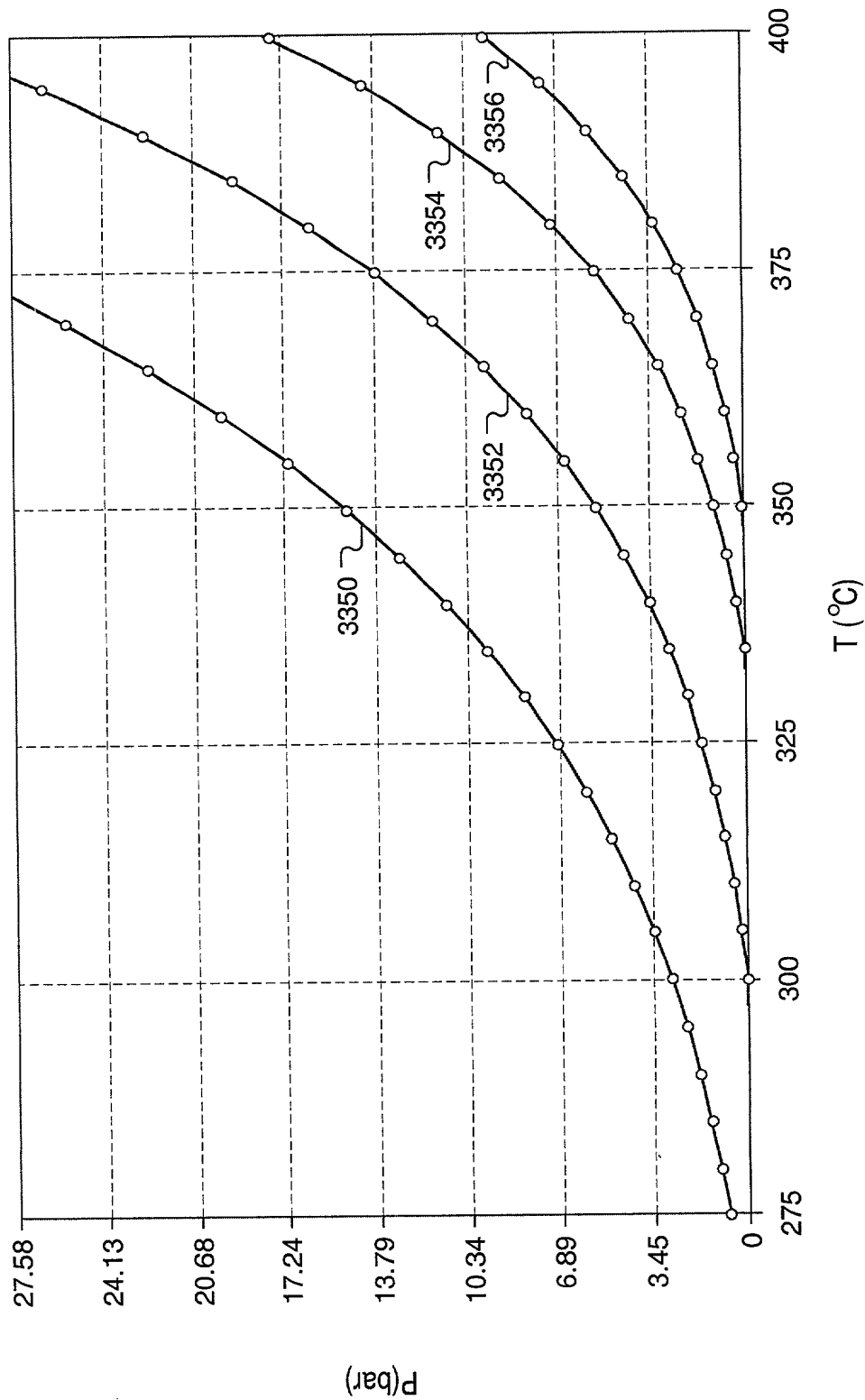


FIG. 94

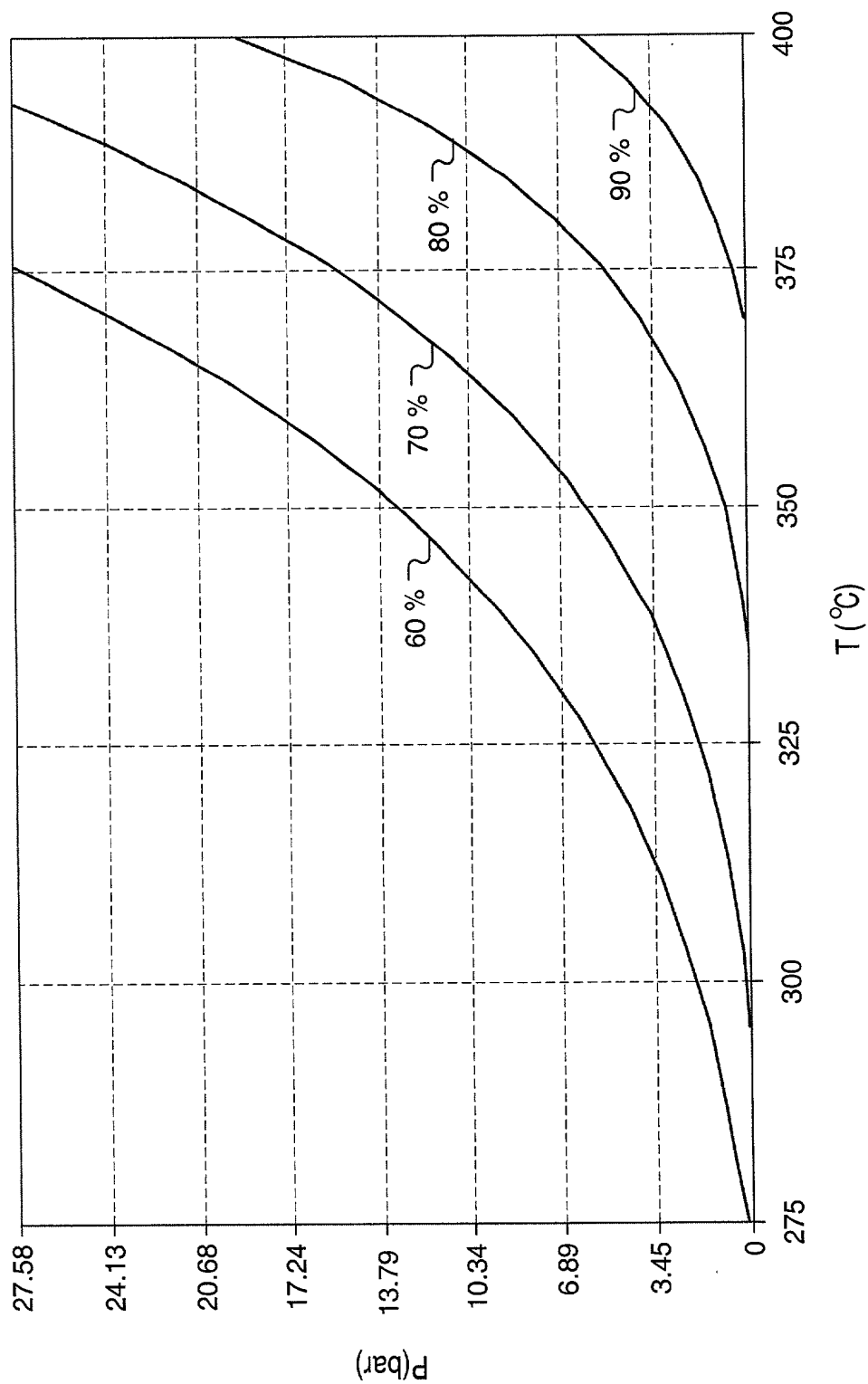


FIG. 95

FIG. 96 is a graph showing the relationship between pressure (P) in bar and temperature (T) in degrees Celsius for a system. The graph includes three curves labeled 1.8, 1.9, and 1.99, representing different conditions or parameters. The pressure (P) is plotted on the vertical axis, ranging from 0 to 27.58 bar. The temperature (T) is plotted on the horizontal axis, ranging from 275 to 400 degrees Celsius. The curves show that pressure increases with temperature, with the rate of increase being more pronounced at higher temperatures.

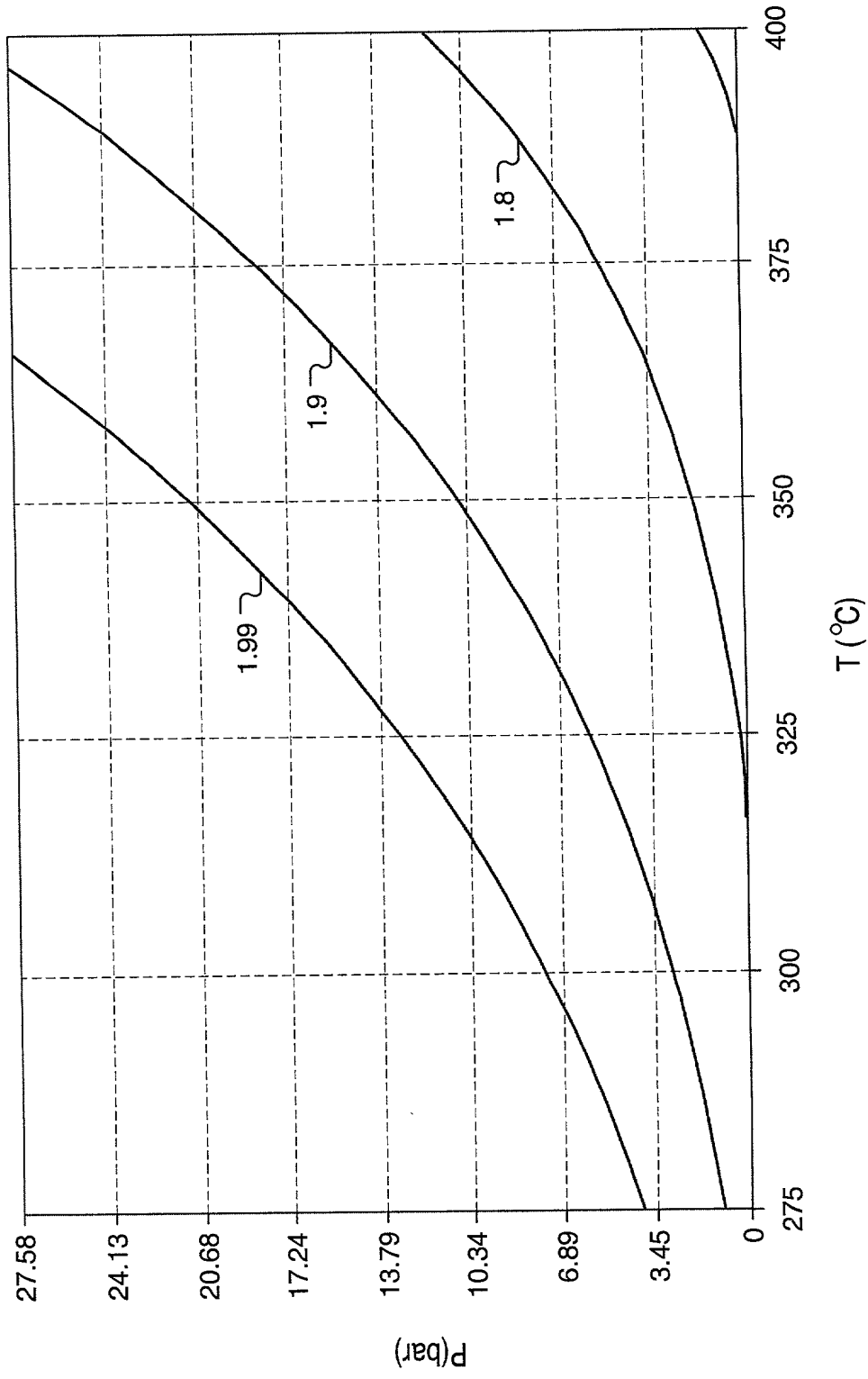


FIG. 96

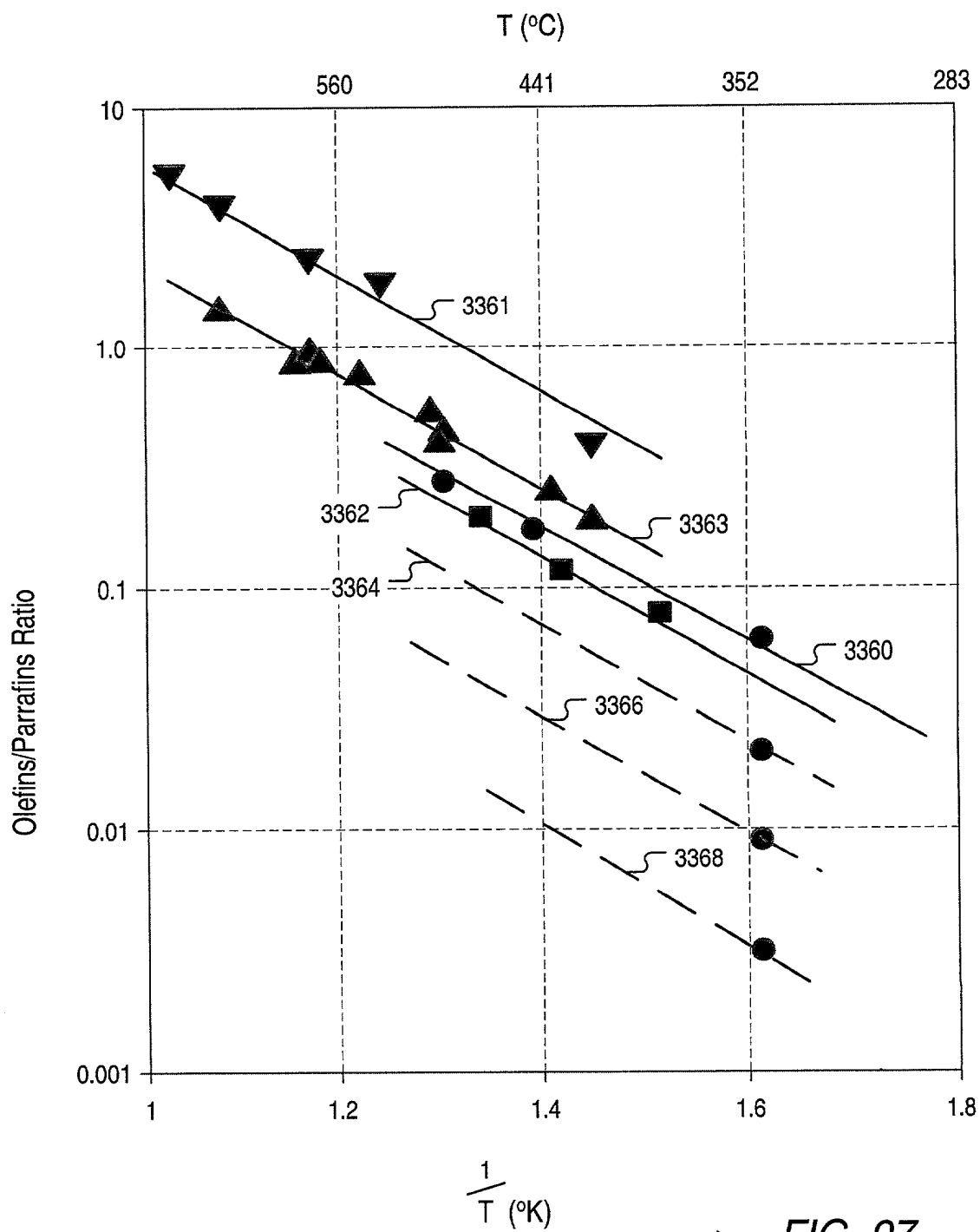


FIG. 97

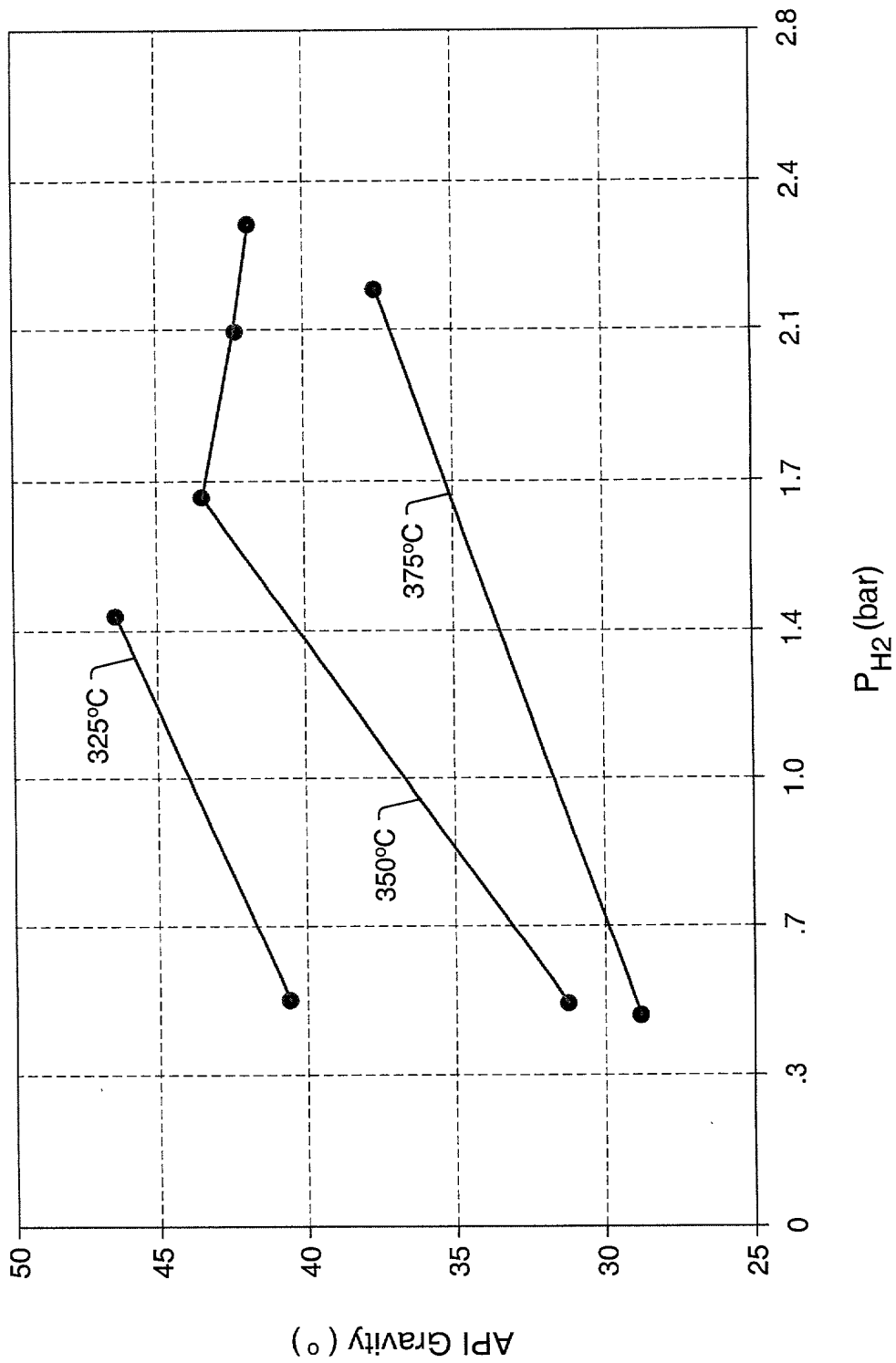


FIG. 98

FIG. 99 is a graph showing the relationship between the pressure of hydrogen gas (P_{H2}) and the oil yield (m³/kg) for three different temperatures: 325°C, 350°C, and 375°C. The graph shows that the oil yield increases with increasing pressure and temperature.

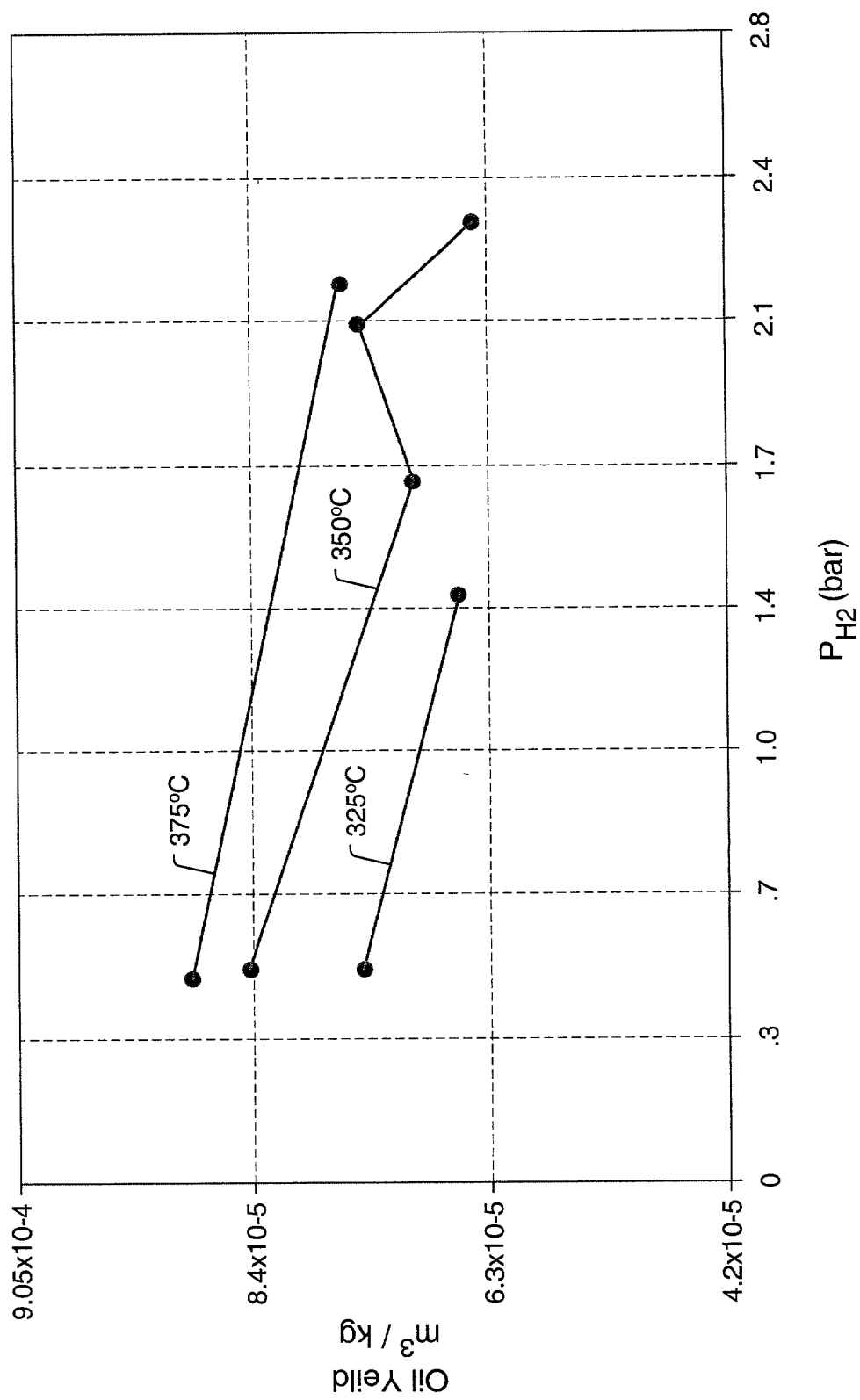


FIG. 99

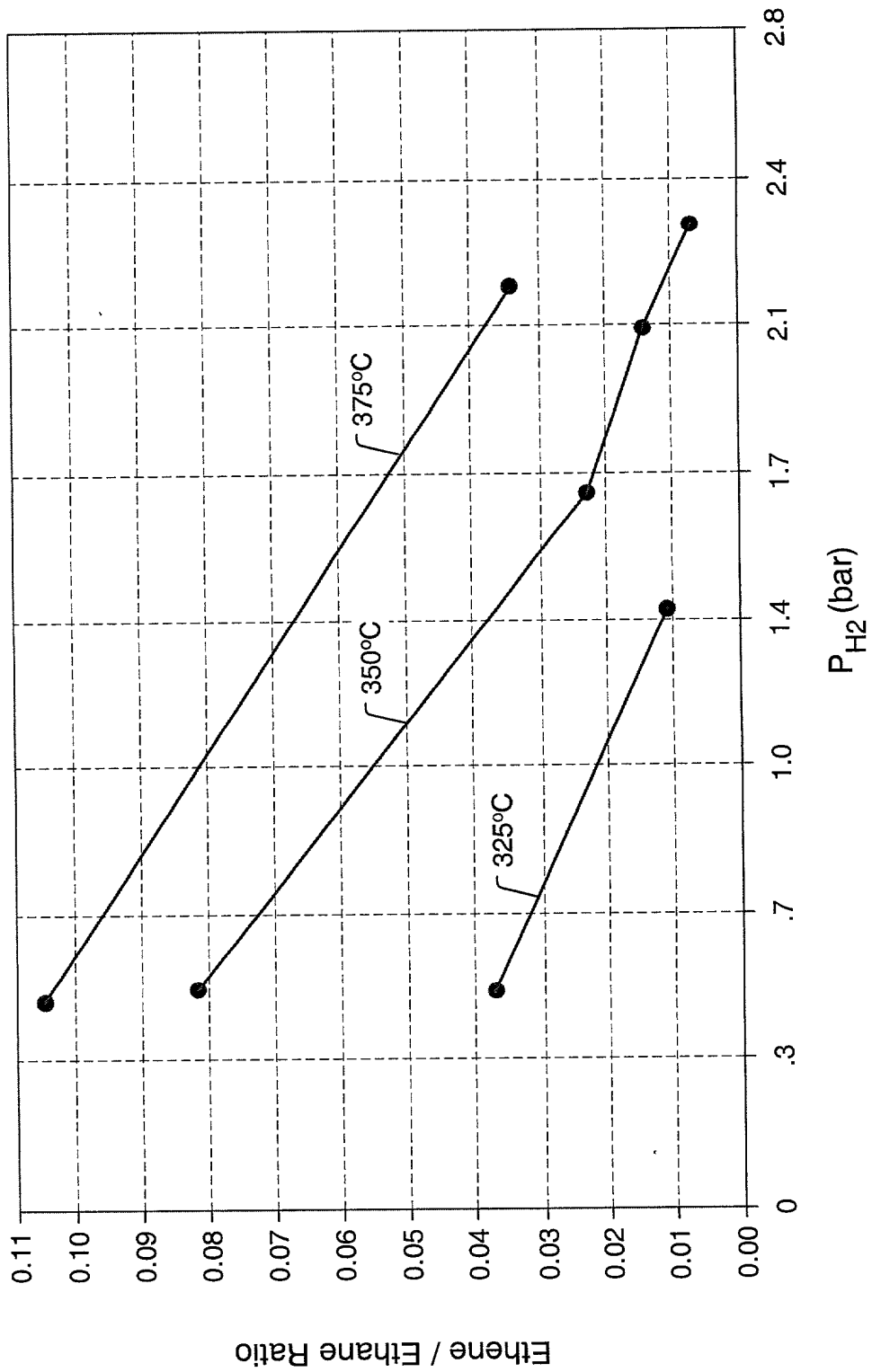


FIG. 100

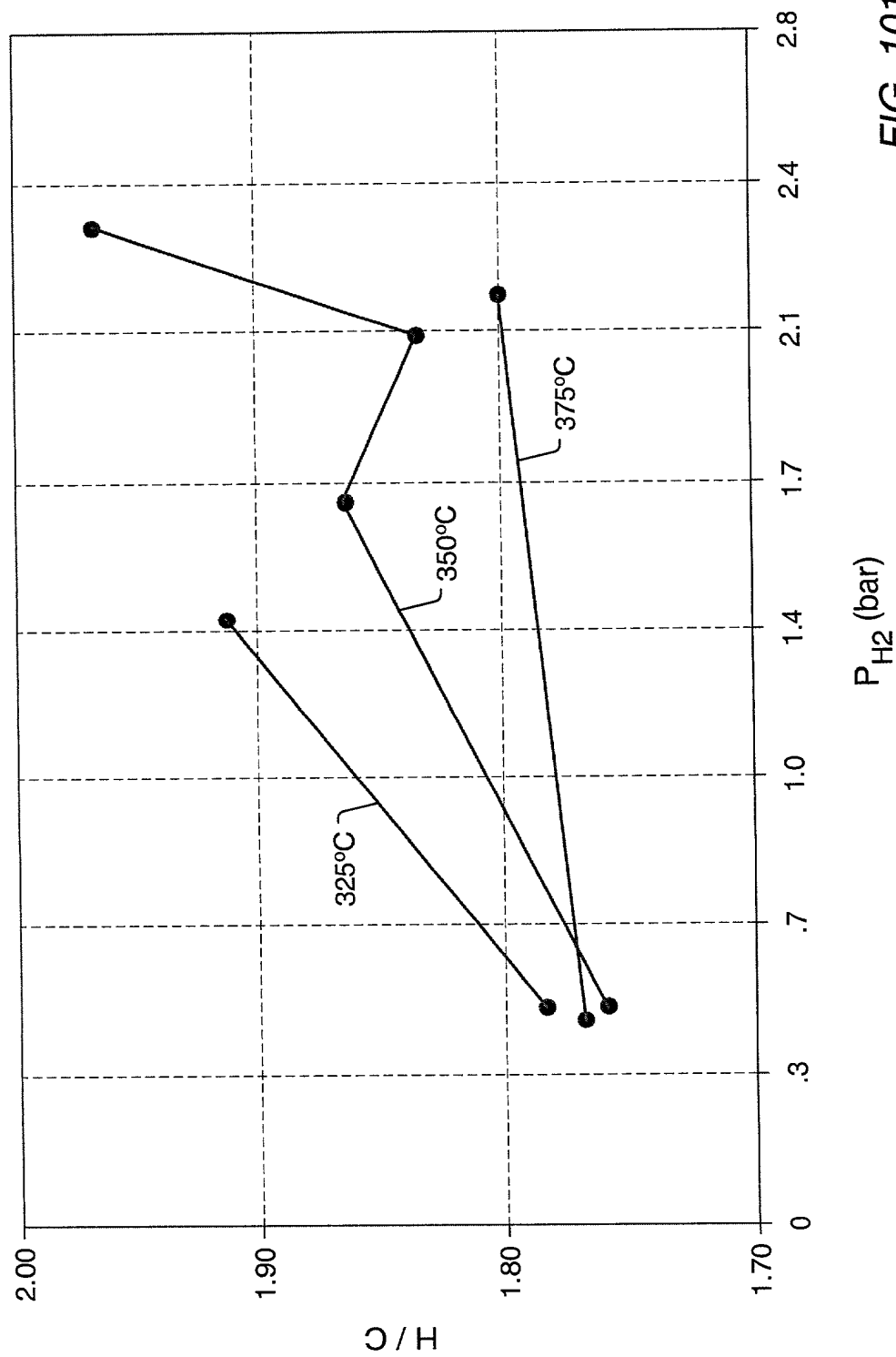


FIG. 101

FIG. 102 is a schematic diagram of a system for processing a material. The system includes a material source 3400, a processing chamber 3402, a heating element 3404, a gas inlet 3406, a gas outlet 3408, a gas flow controller 3410, a gas flow meter 3412, a gas flow sensor 3414, and a gas flow actuator 3416. The material source 3400 is connected to the processing chamber 3402 via a gas inlet 3406. The processing chamber 3402 is connected to the gas outlet 3408 via a gas flow controller 3410. The gas flow controller 3410 is connected to the gas flow meter 3412, which is connected to the gas flow sensor 3414, which is connected to the gas flow actuator 3416. The gas flow actuator 3416 is connected to the gas inlet 3406 via a gas flow controller 3410. The gas flow controller 3410 is also connected to the gas flow meter 3412, which is connected to the gas flow sensor 3414, which is connected to the gas flow actuator 3416. The gas flow actuator 3416 is connected to the gas inlet 3406 via a gas flow controller 3410. The gas flow controller 3410 is also connected to the gas flow meter 3412, which is connected to the gas flow sensor 3414, which is connected to the gas flow actuator 3416.

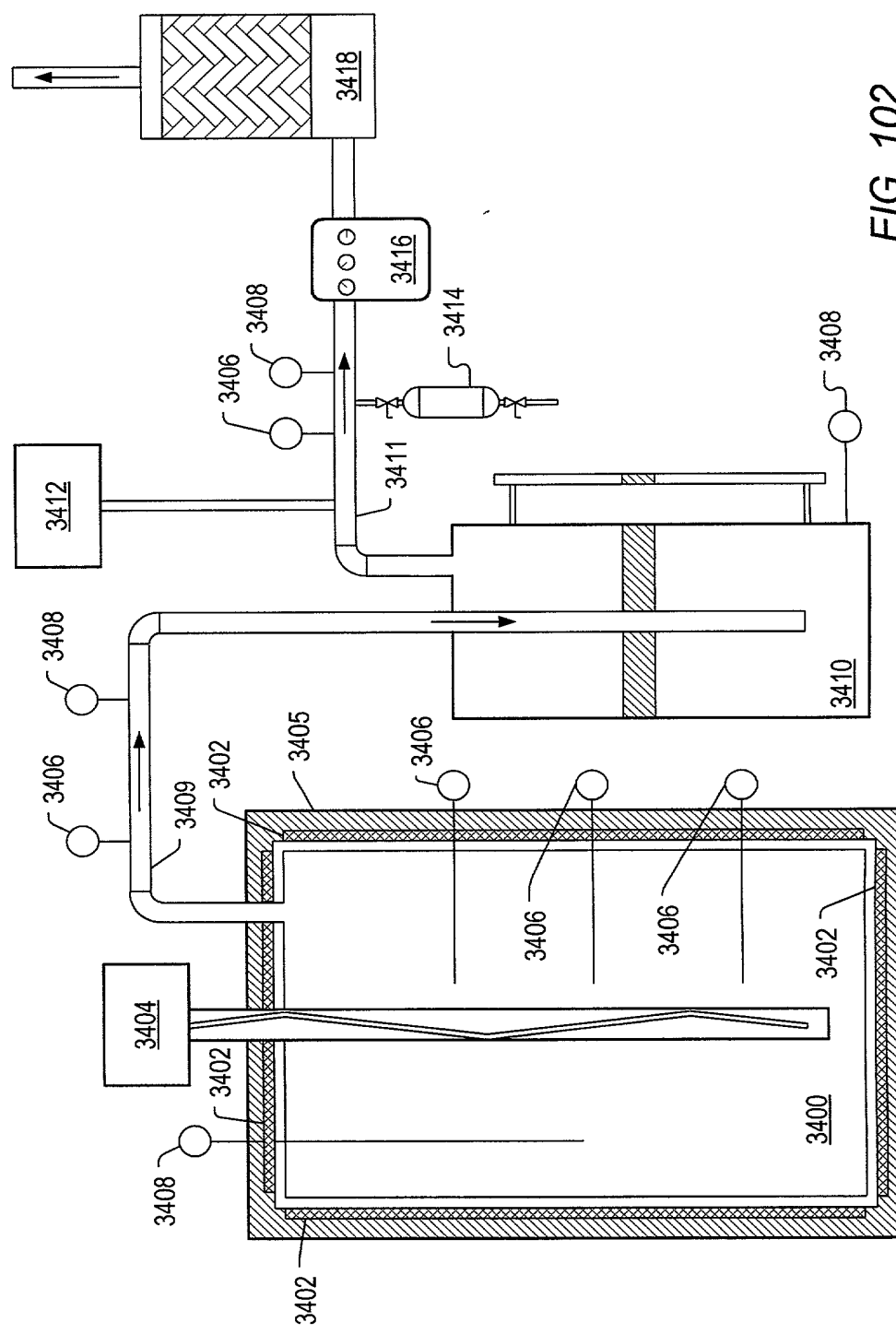


FIG. 102

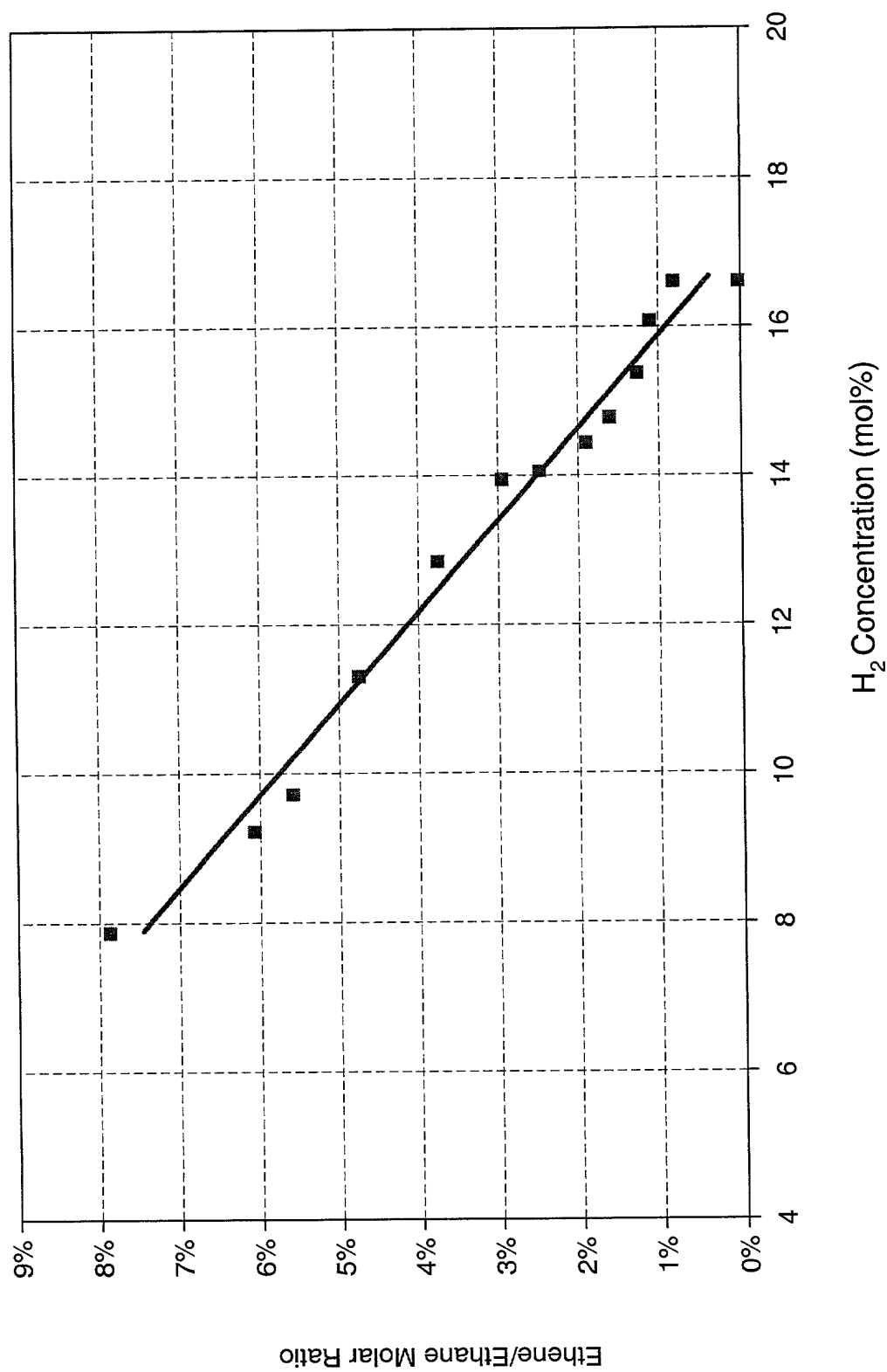
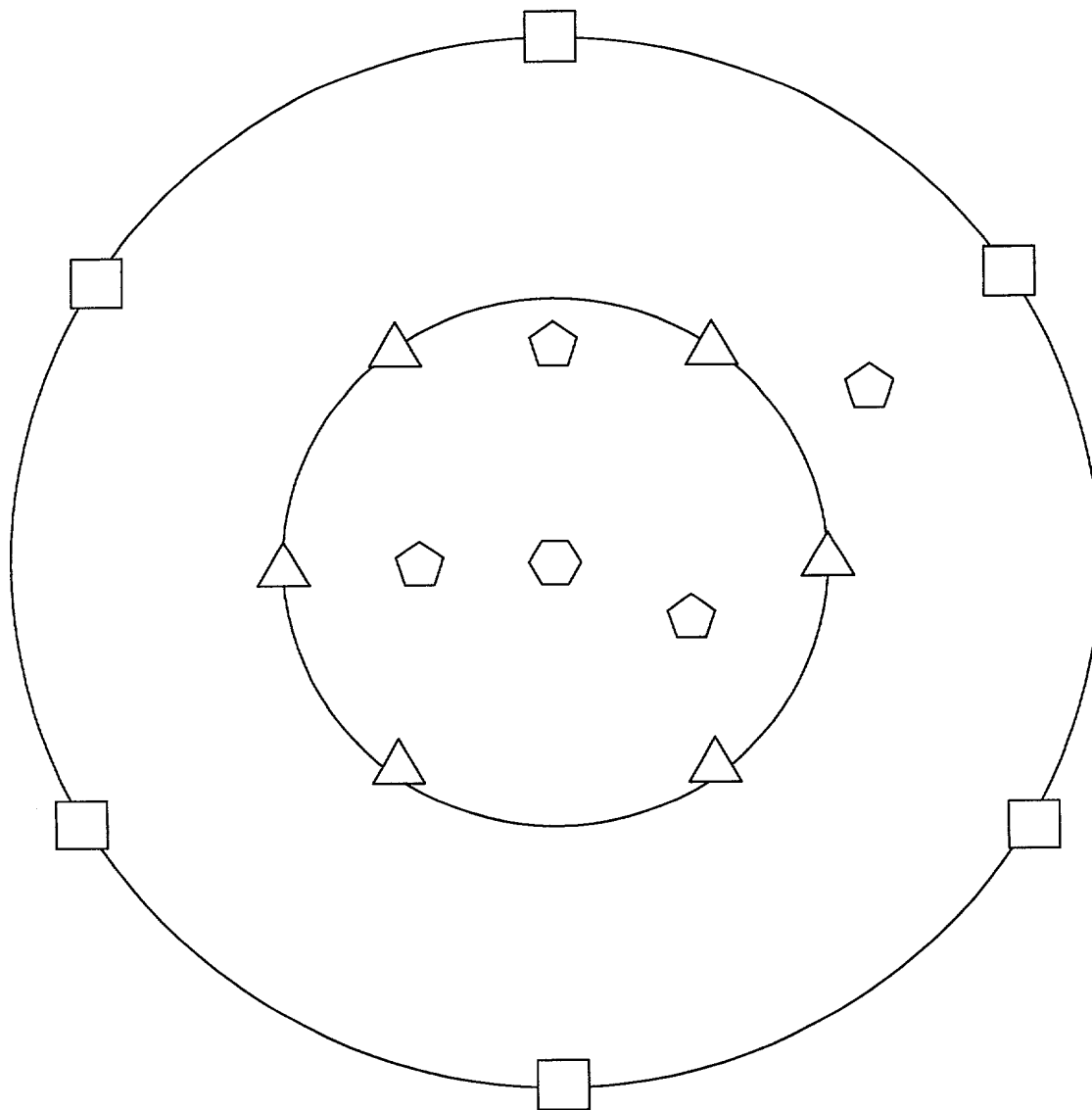


FIG. 103



△ - 3600

⬠ - 3603

□ - 3604

⬡ - 3602

FIG. 104

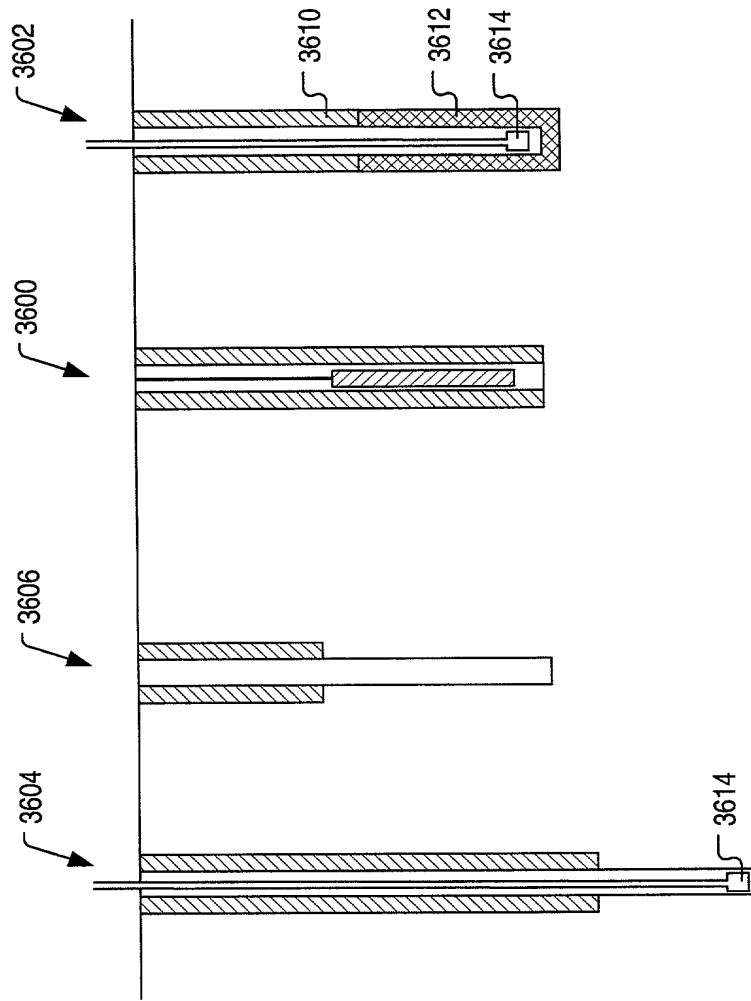
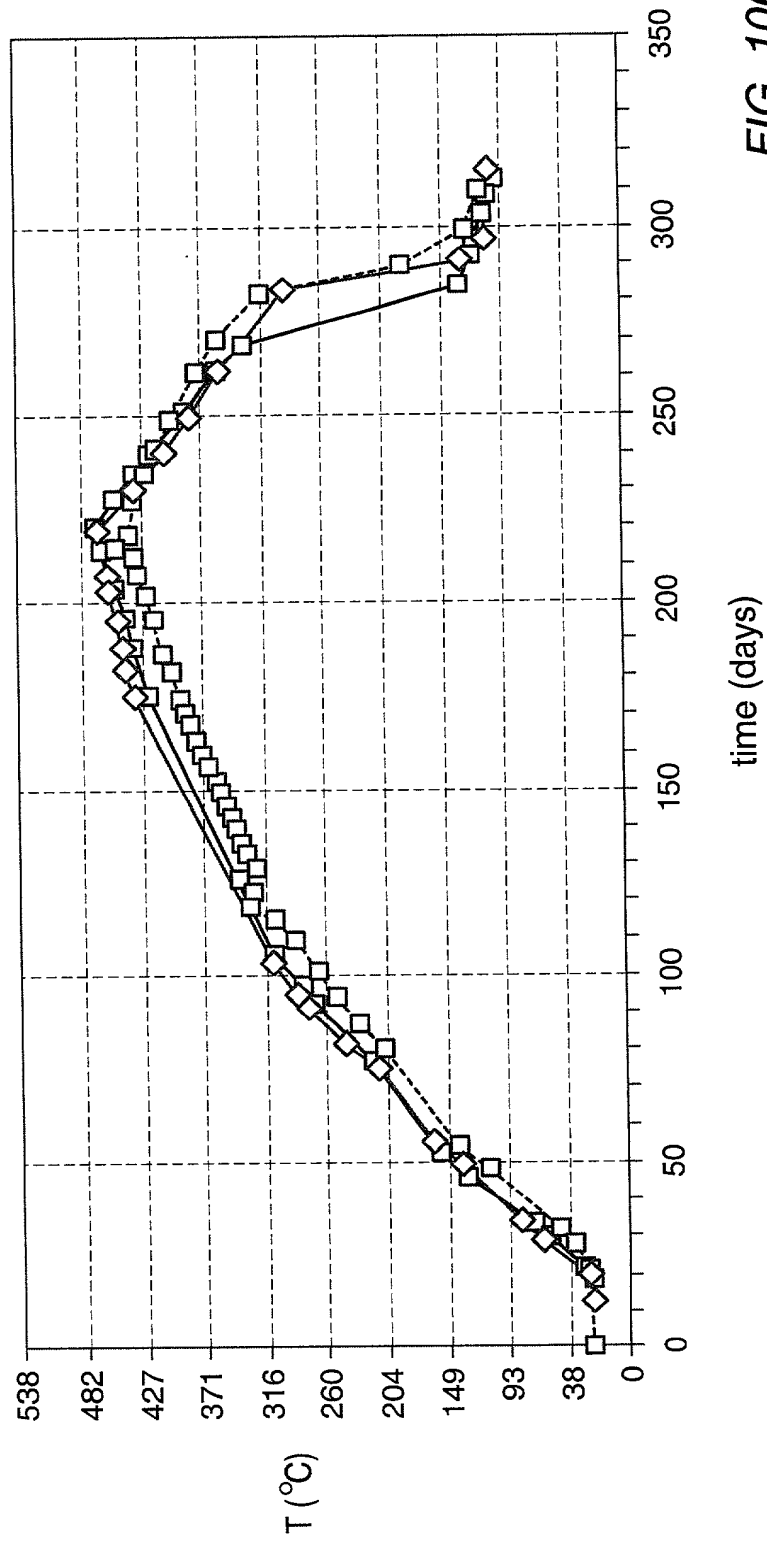


FIG. 105



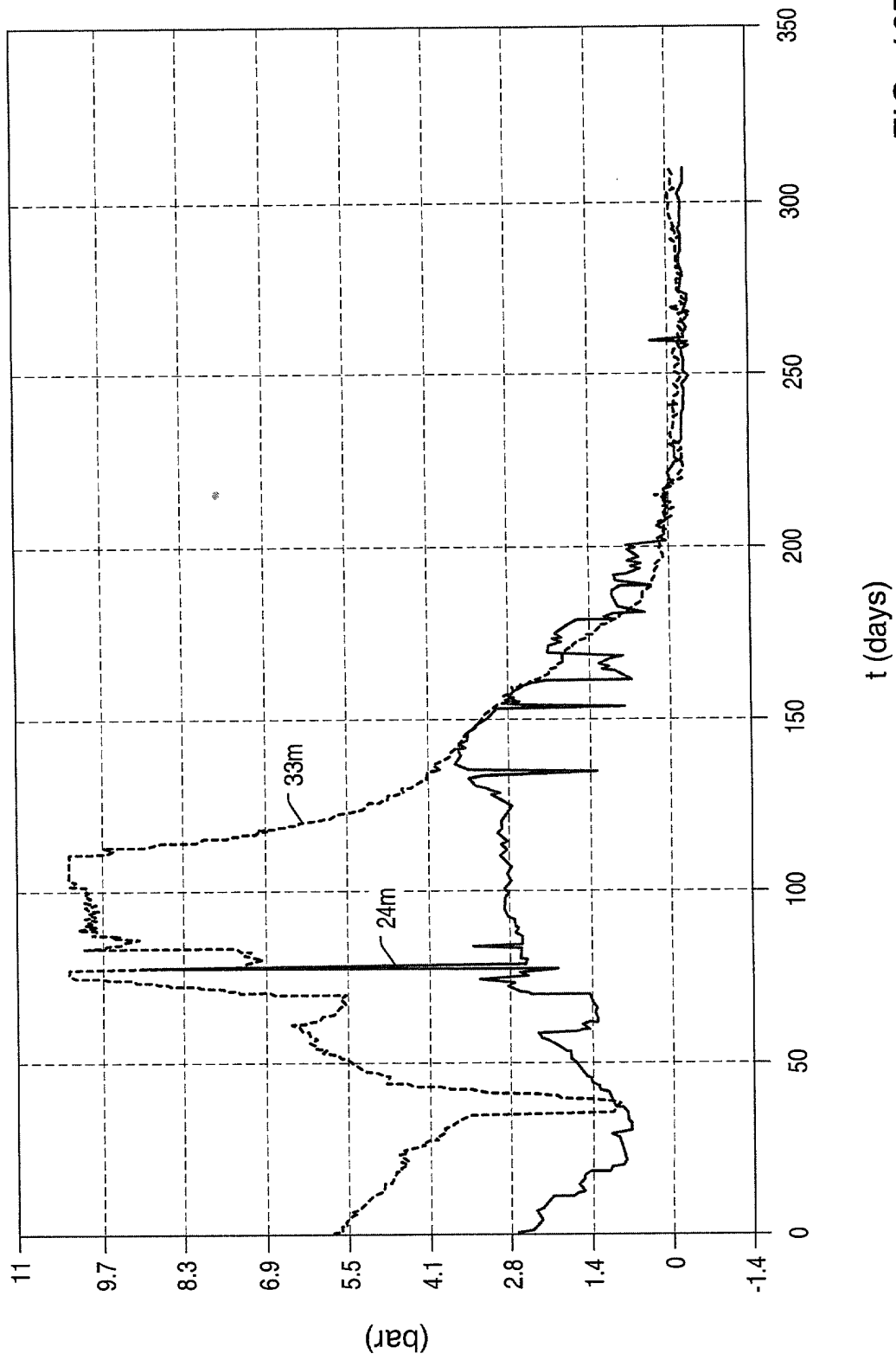


FIG. 107

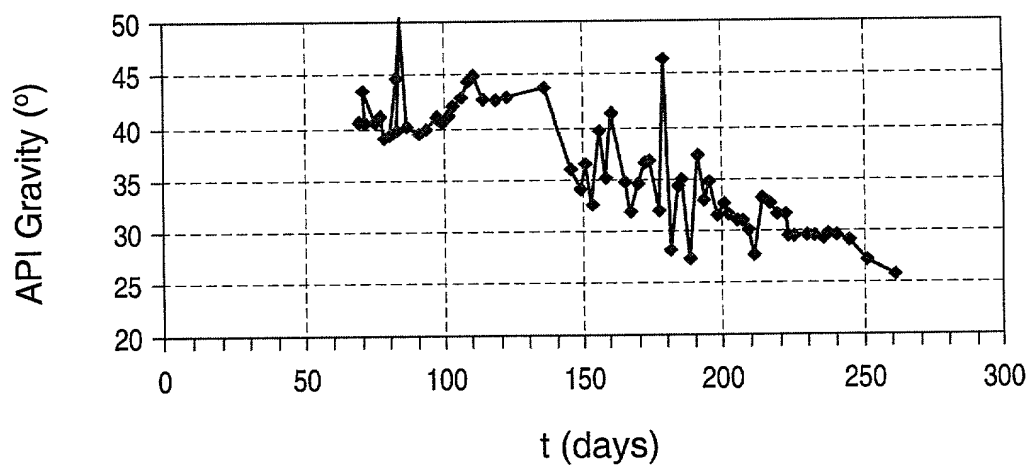


FIG. 108

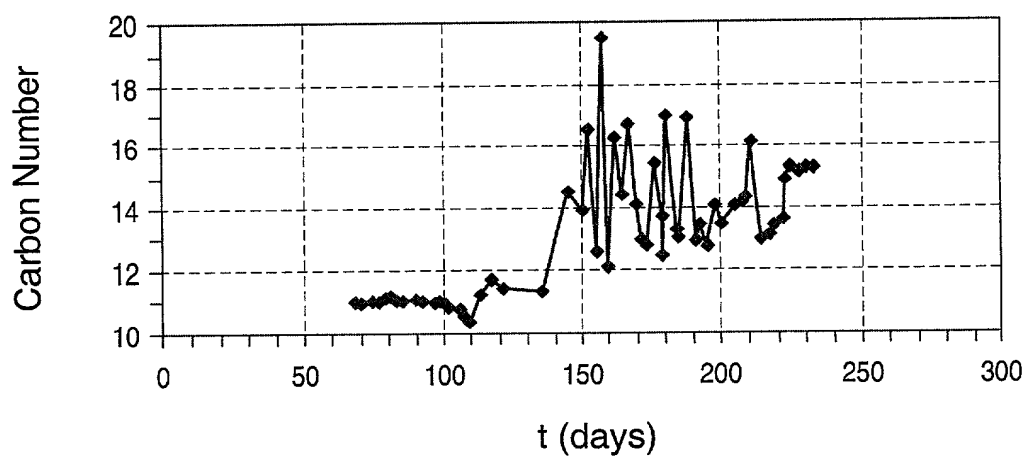


FIG. 109

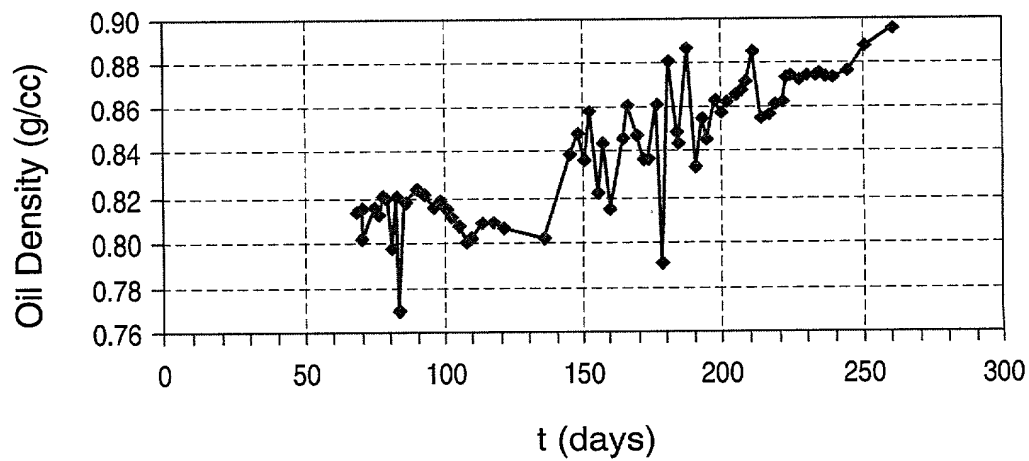


FIG. 110

THE UNIVERSITY OF TEXAS AT AUSTIN
DEPARTMENT OF CHEMISTRY
AUSTIN, TEXAS 78712-1075

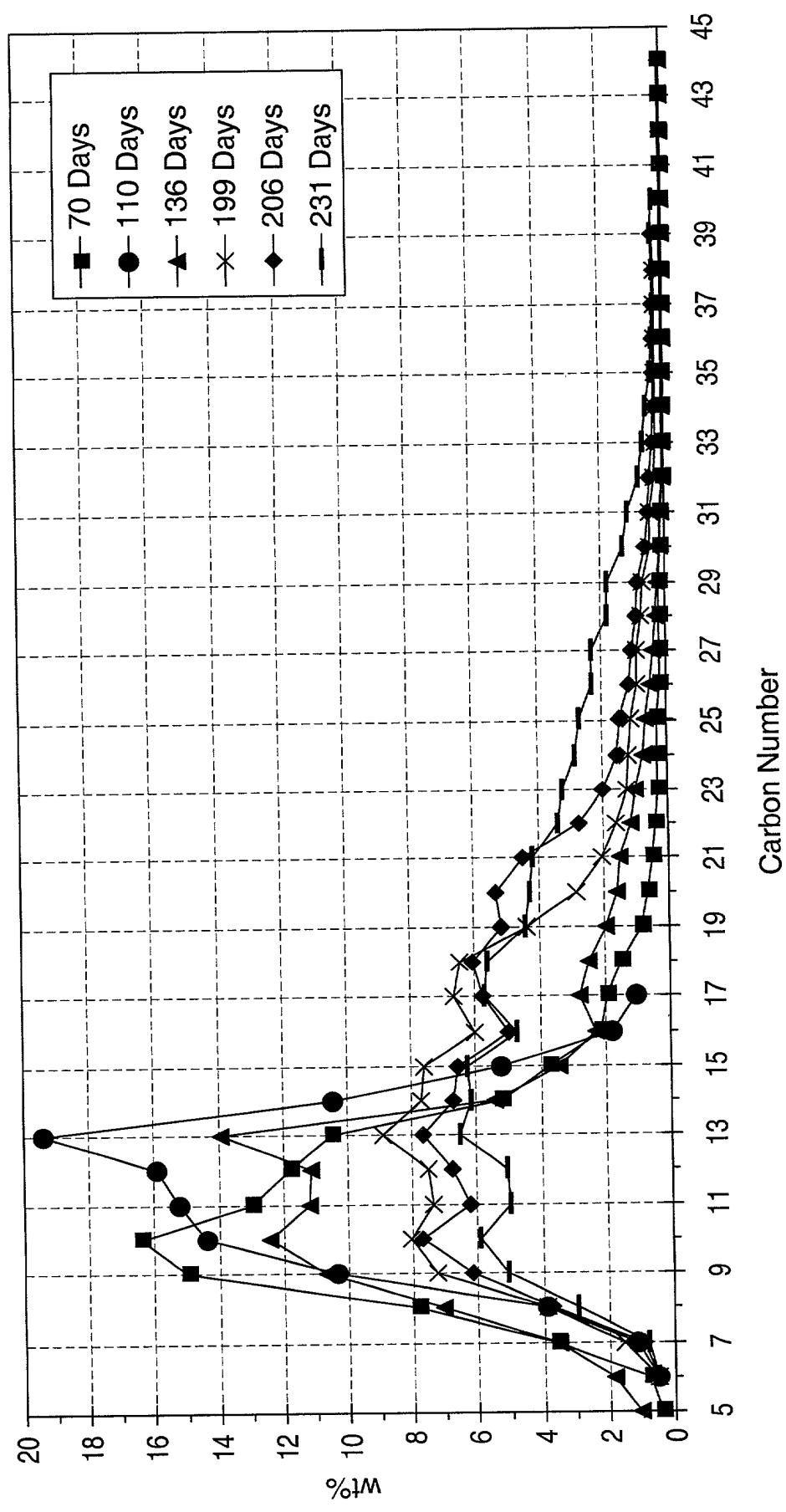


FIG. 111

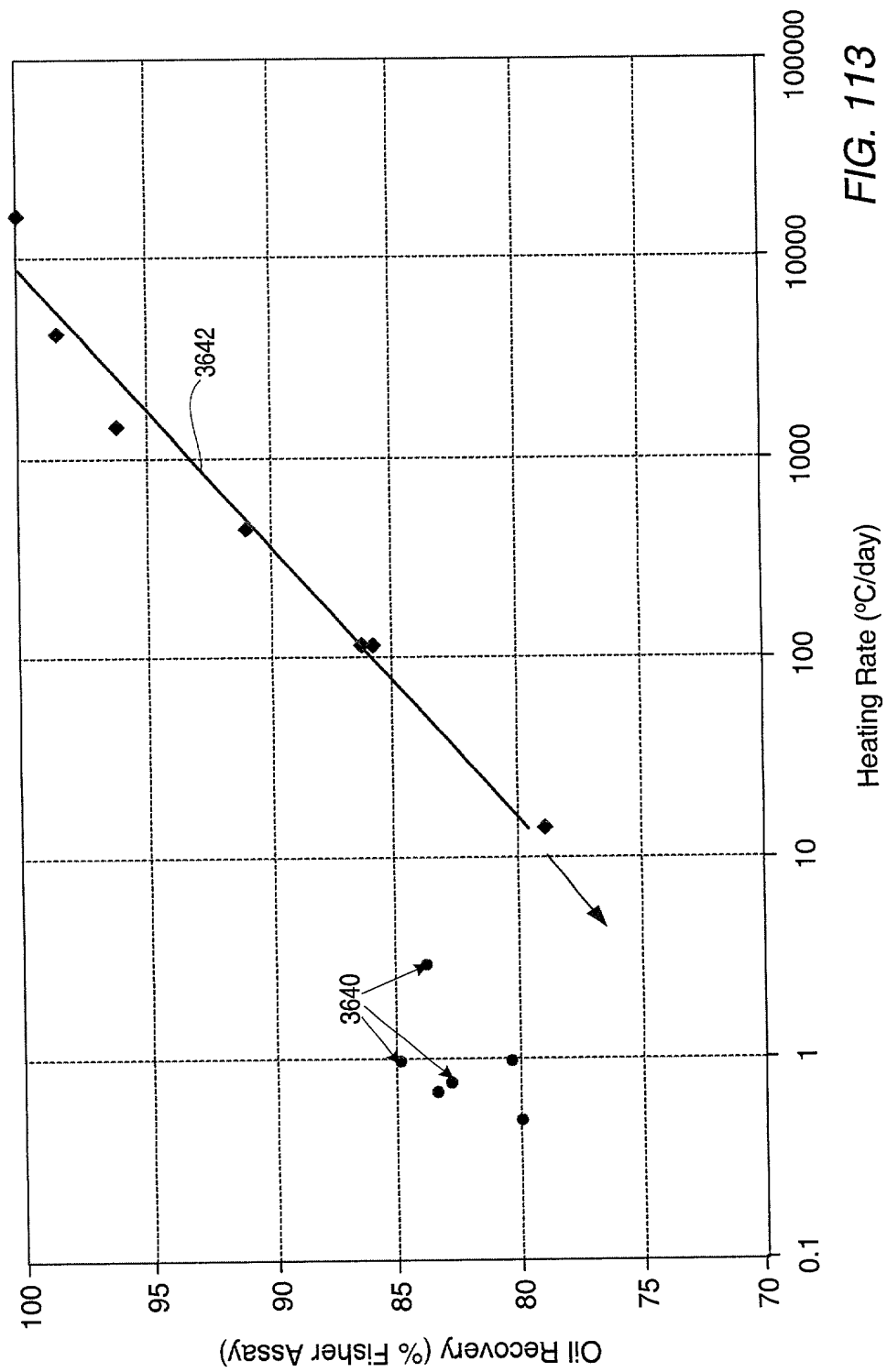


FIG. 113

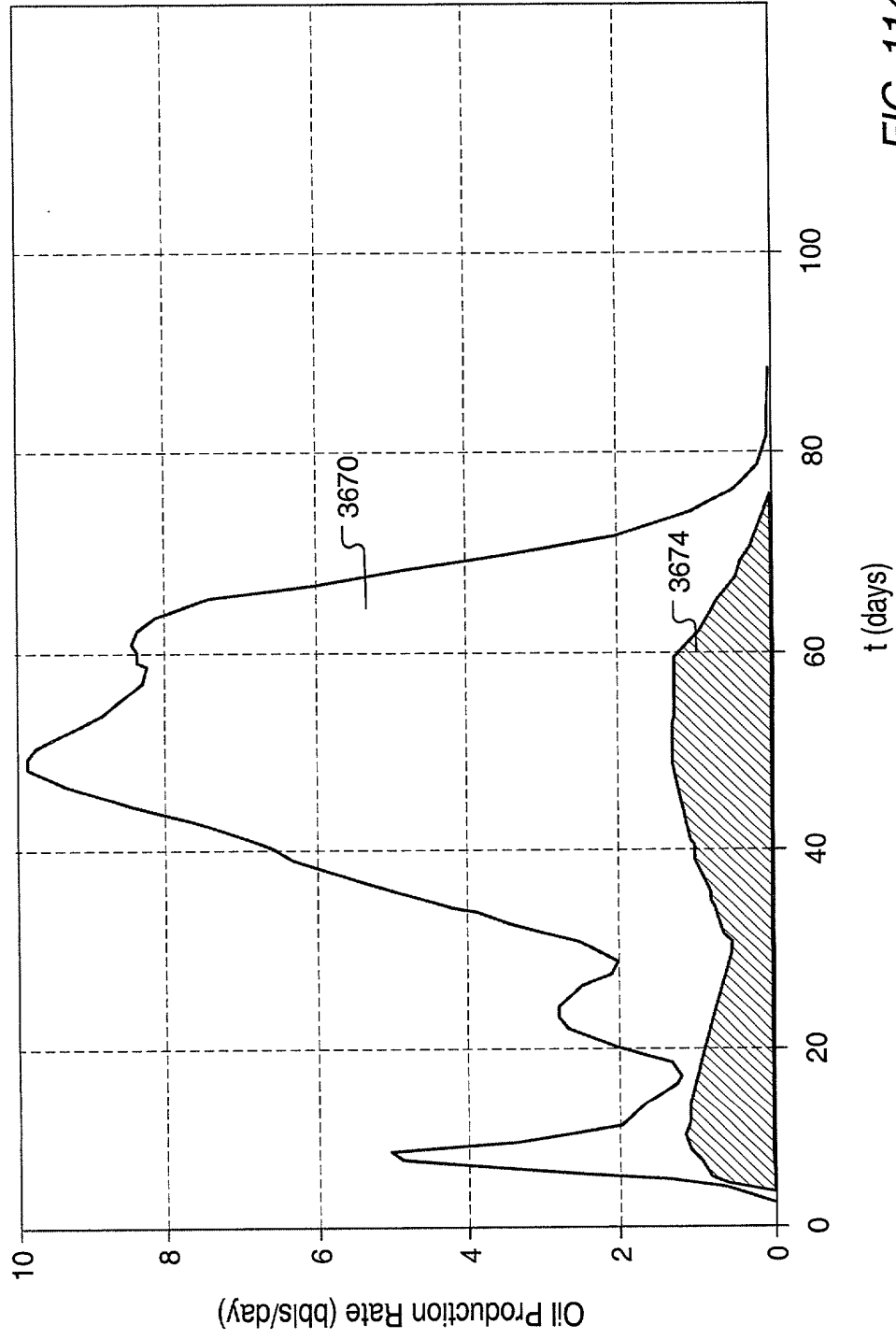


FIG. 114

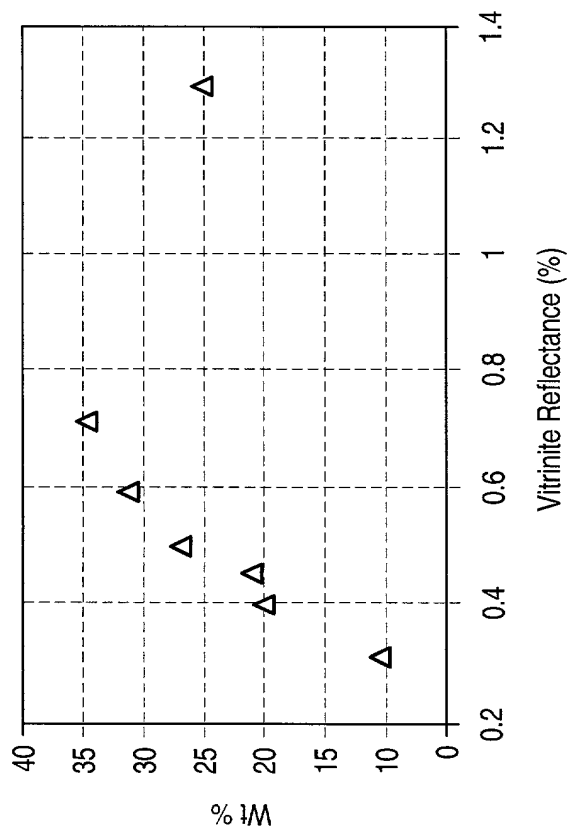


FIG. 115

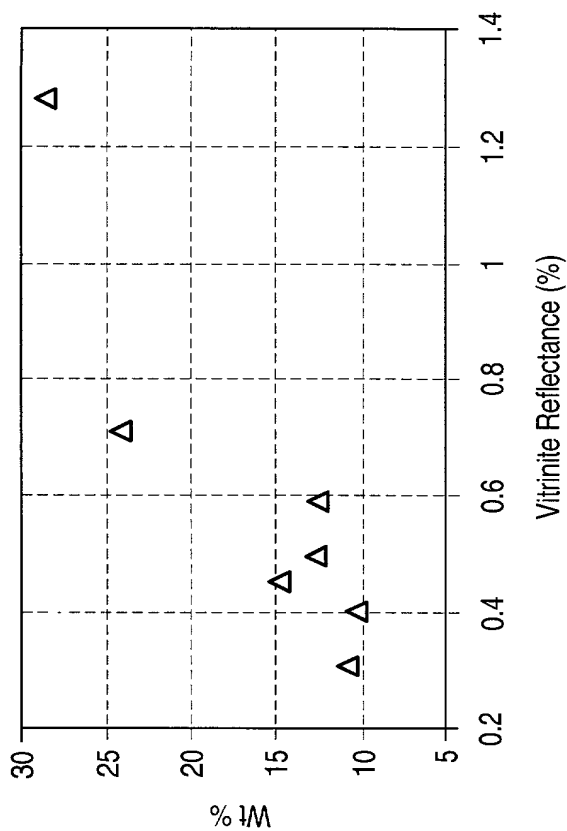


FIG. 116

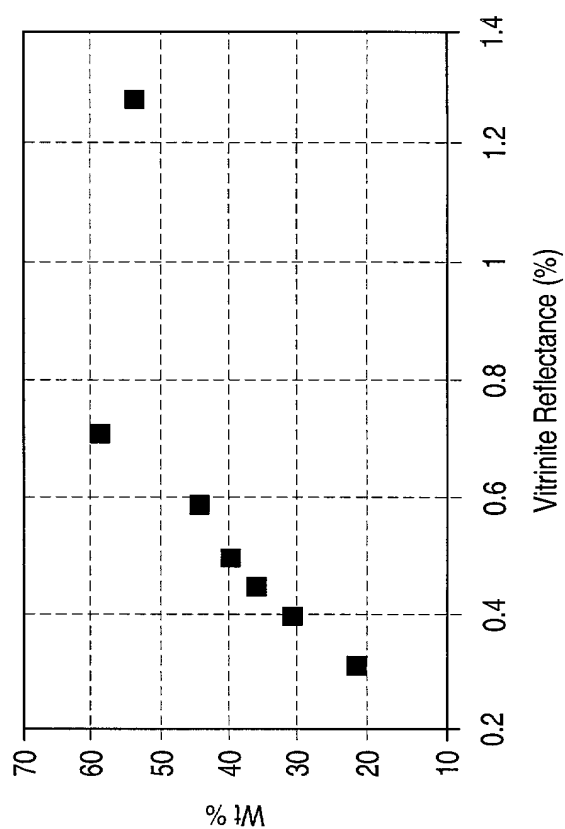


FIG. 117

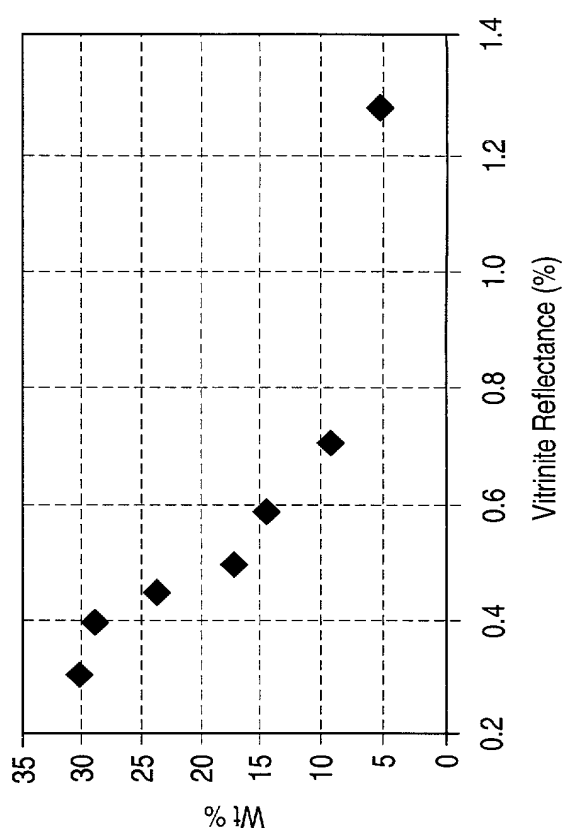


FIG. 118

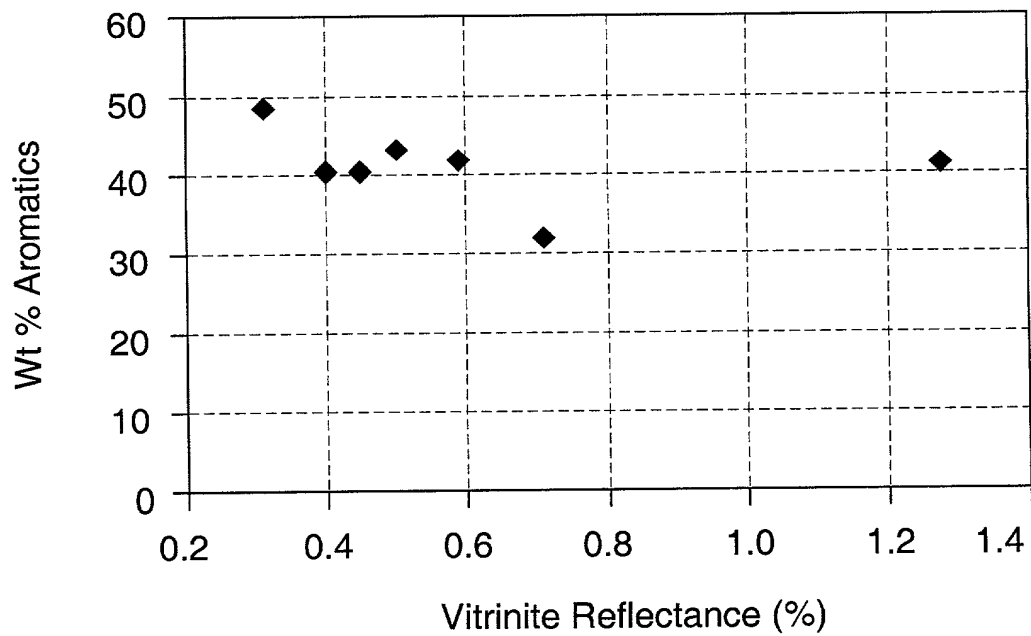


FIG. 119

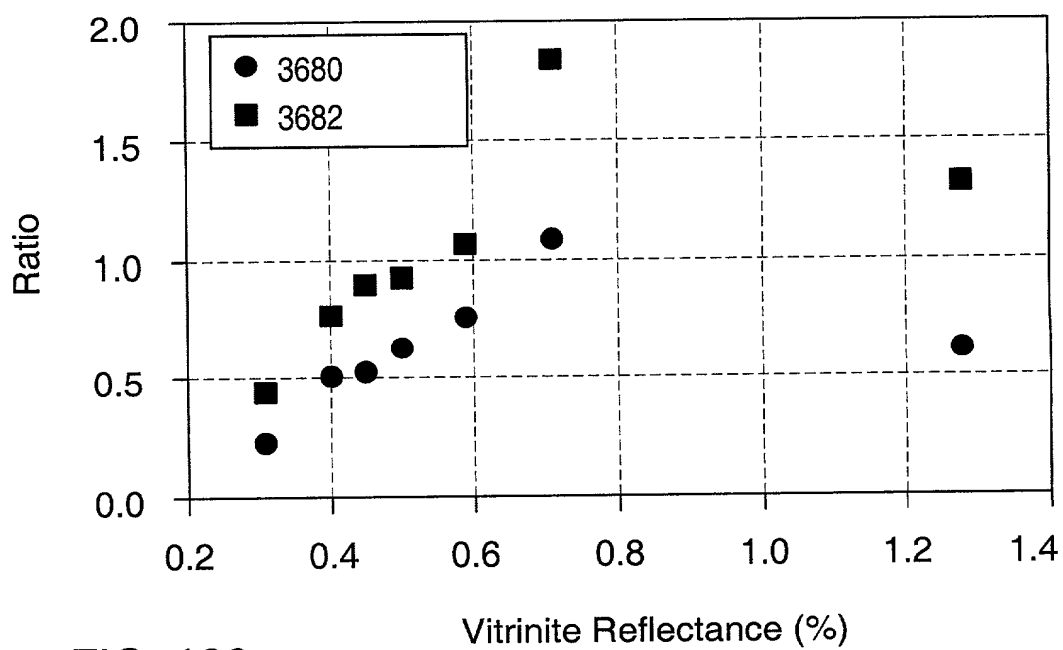


FIG. 120

Figure 121, 122, 123, and 124 are scatter plots showing the relationship between Vitrinite Reflectance (%) and m^3/kg for different samples. The data points are plotted on a grid with Vitrinite Reflectance (%) on the x-axis (0.2 to 1.4) and m^3/kg on the y-axis (0 to 4.2×10^{-5} for FIG. 121, 0 to 2.5×10^{-5} for FIG. 122, 0 to 6.7×10^{-5} for FIG. 123, and 0.0 to 1.3×10^{-5} for FIG. 124). The symbols used are triangles for FIG. 121 and FIG. 122, diamonds for FIG. 124, and squares for FIG. 123.

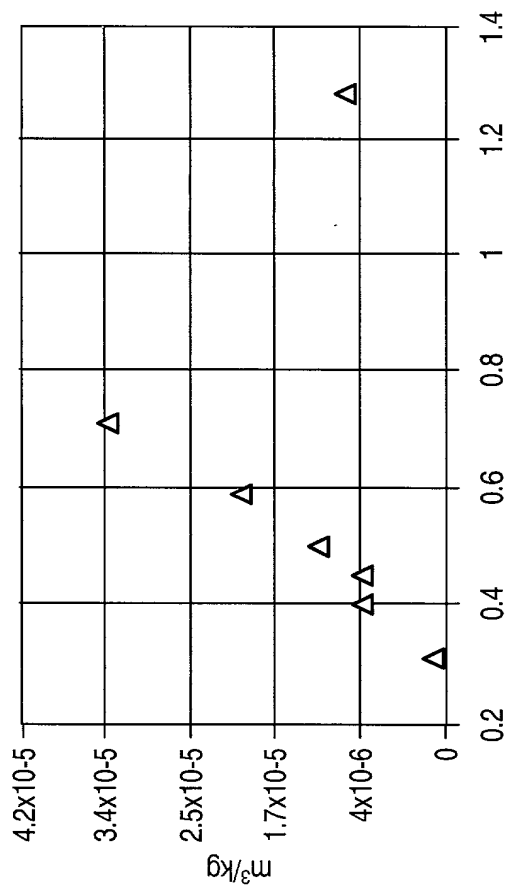


FIG. 121

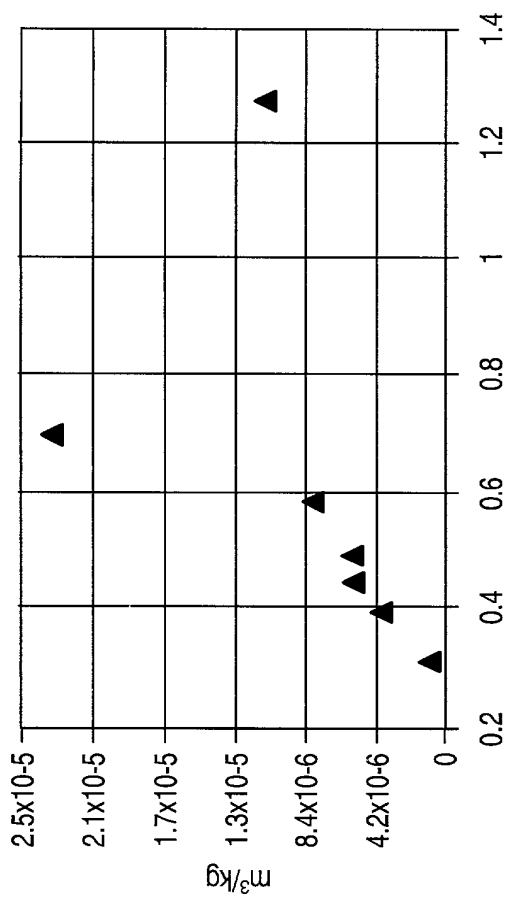


FIG. 122

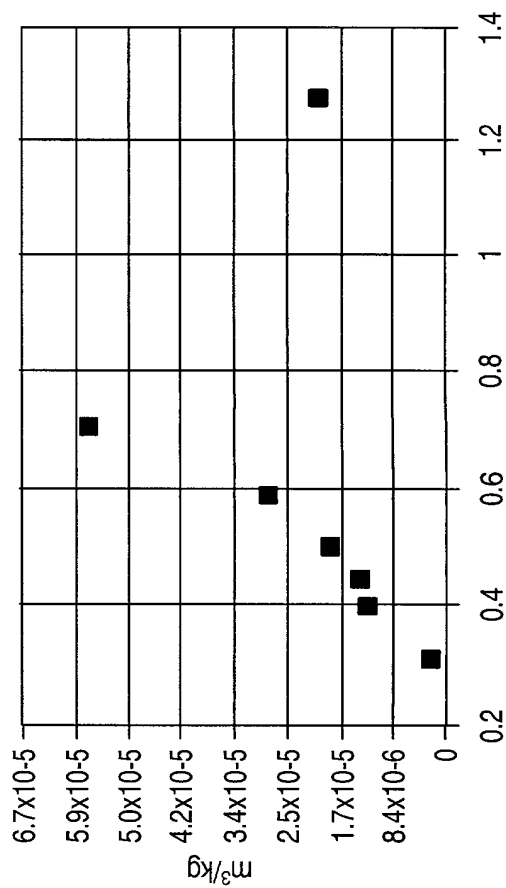


FIG. 123

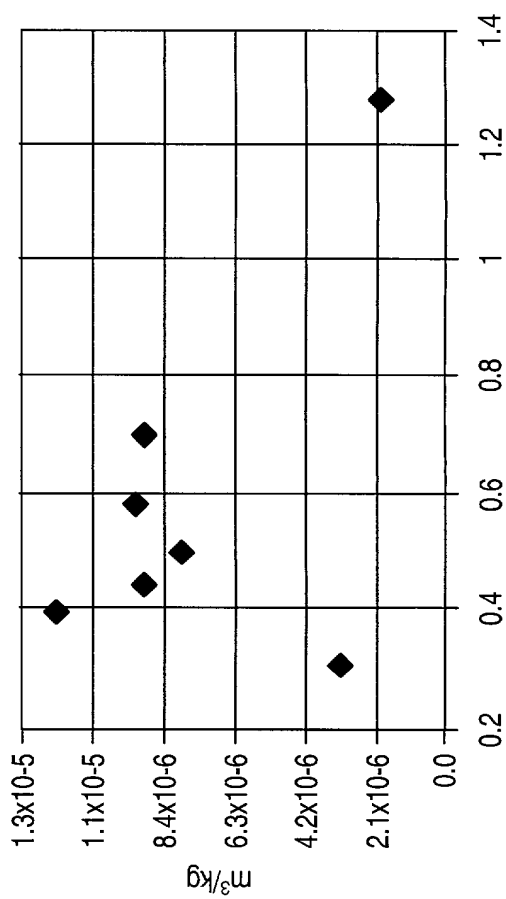


FIG. 124

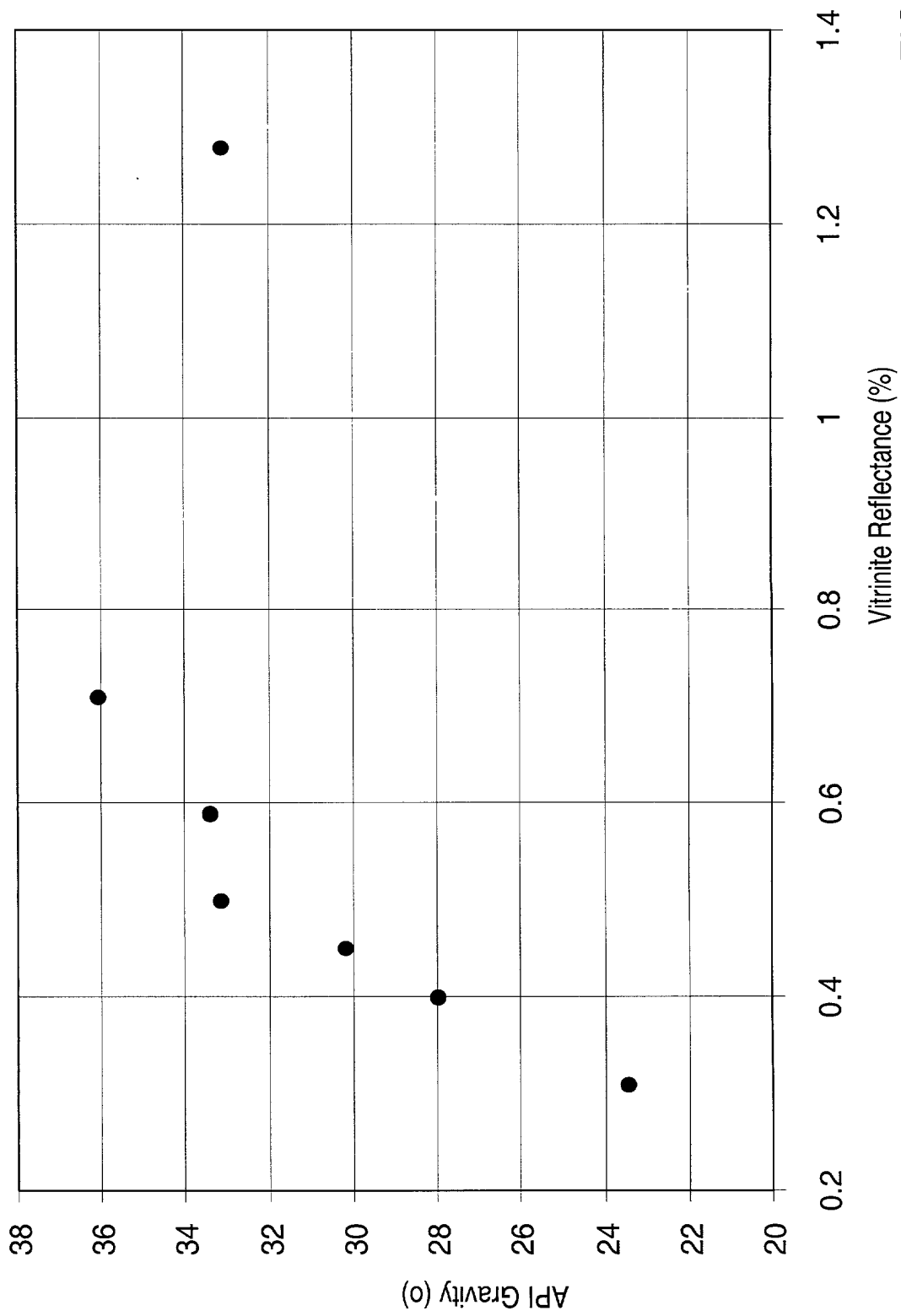
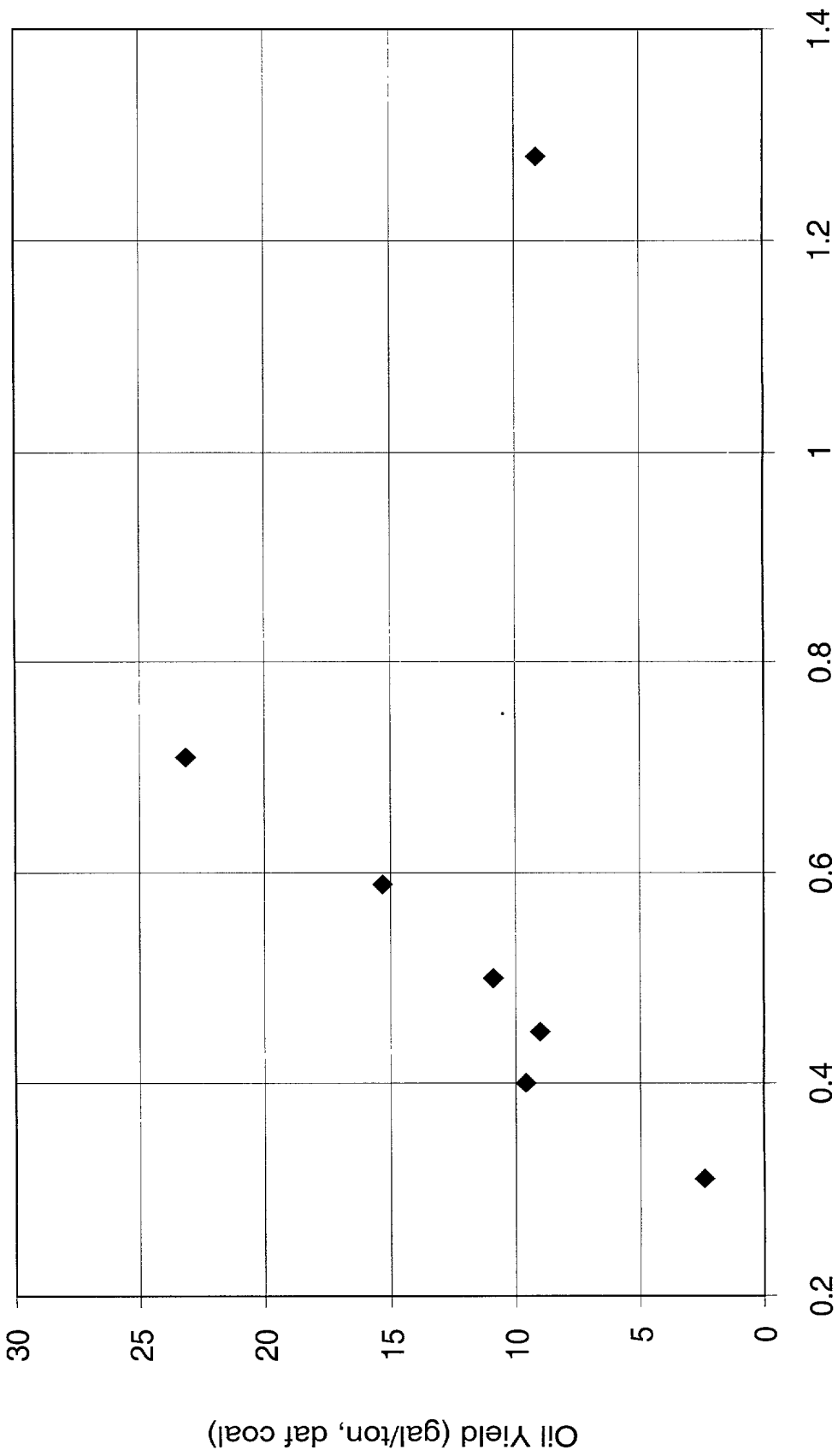


FIG. 125



Vitrinite Reflectance (%)

FIG. 126

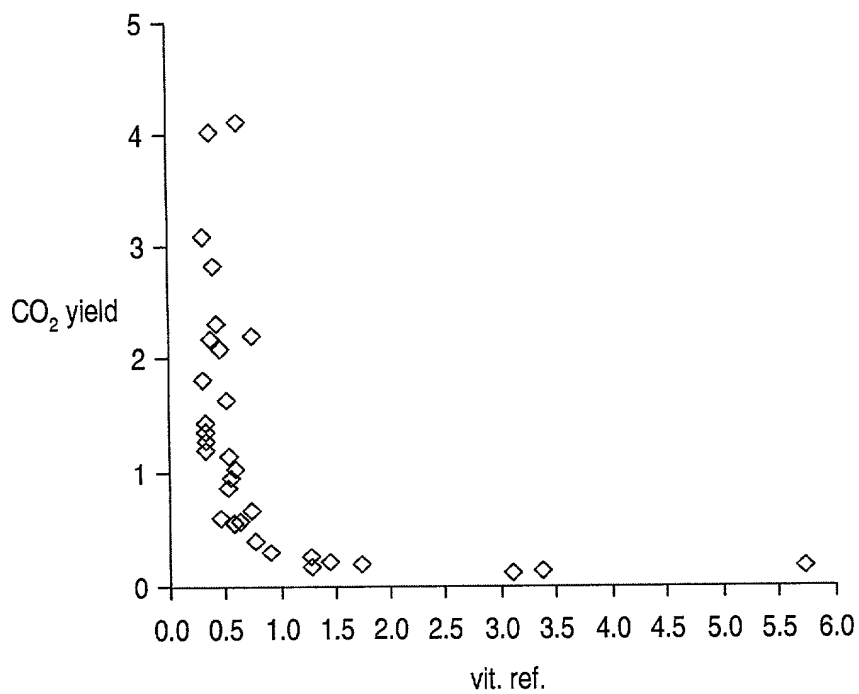


FIG. 127

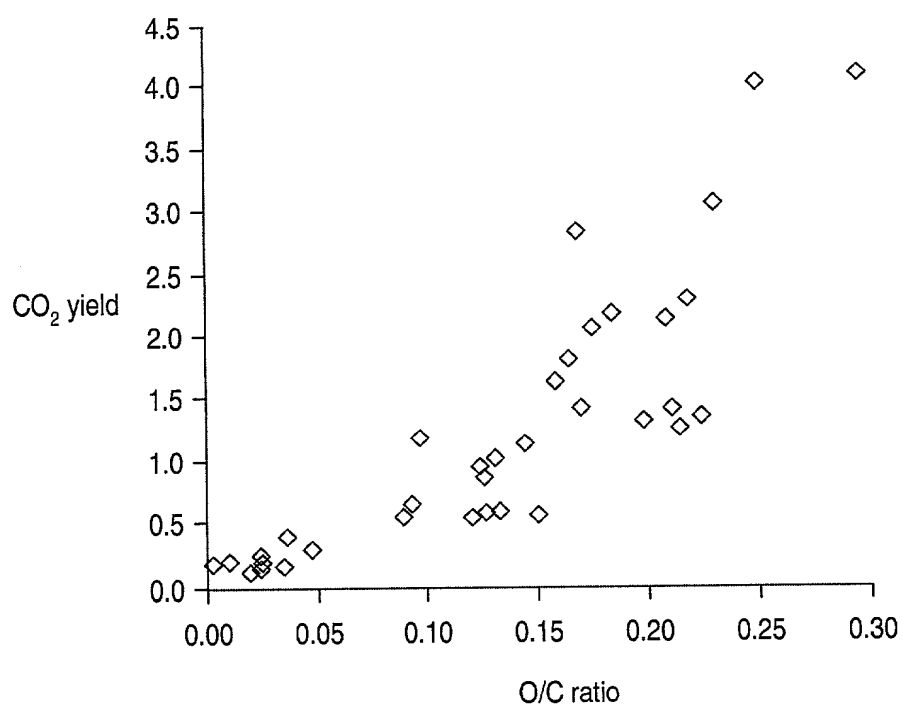


FIG. 128

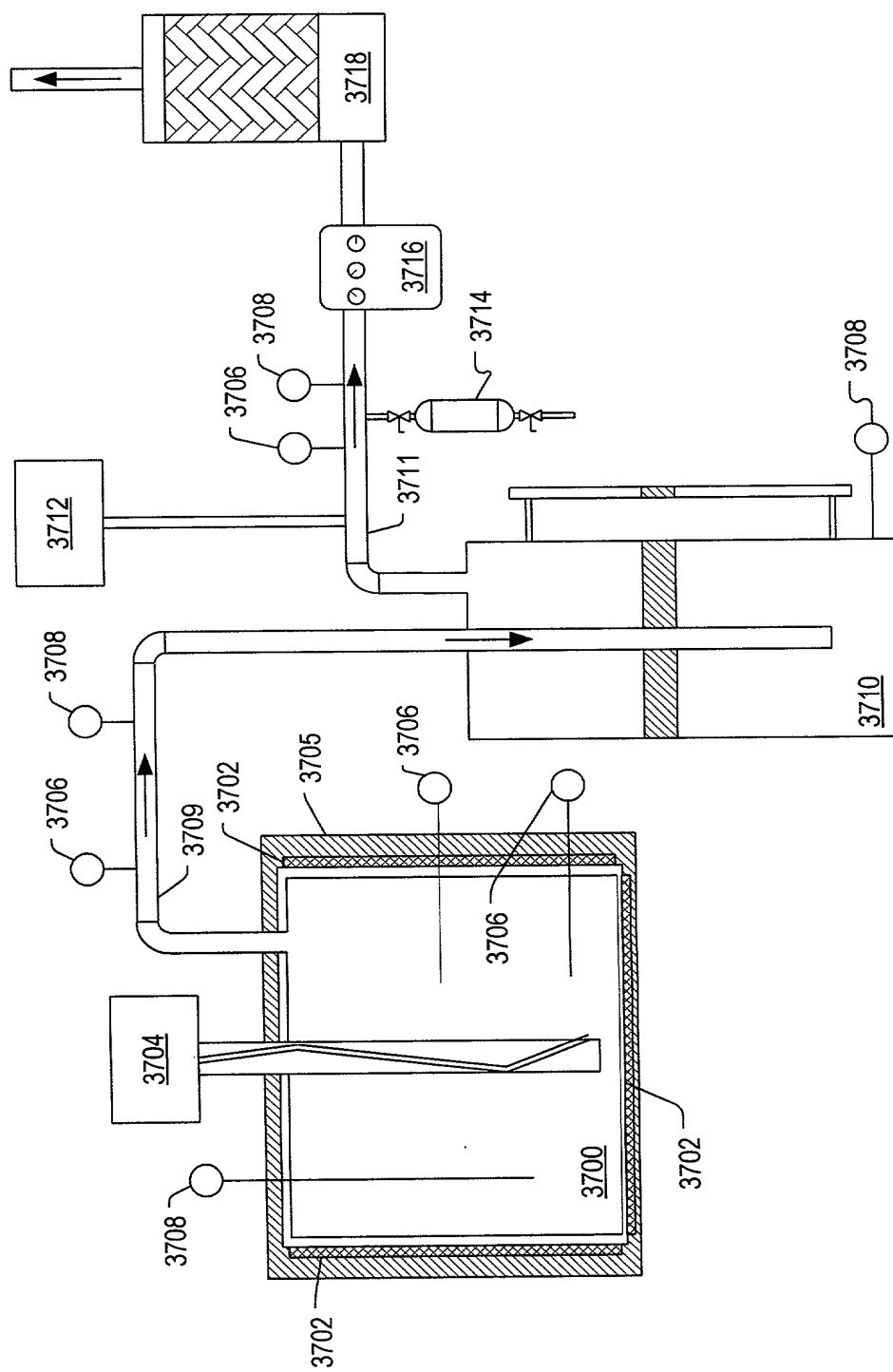


FIG. 129

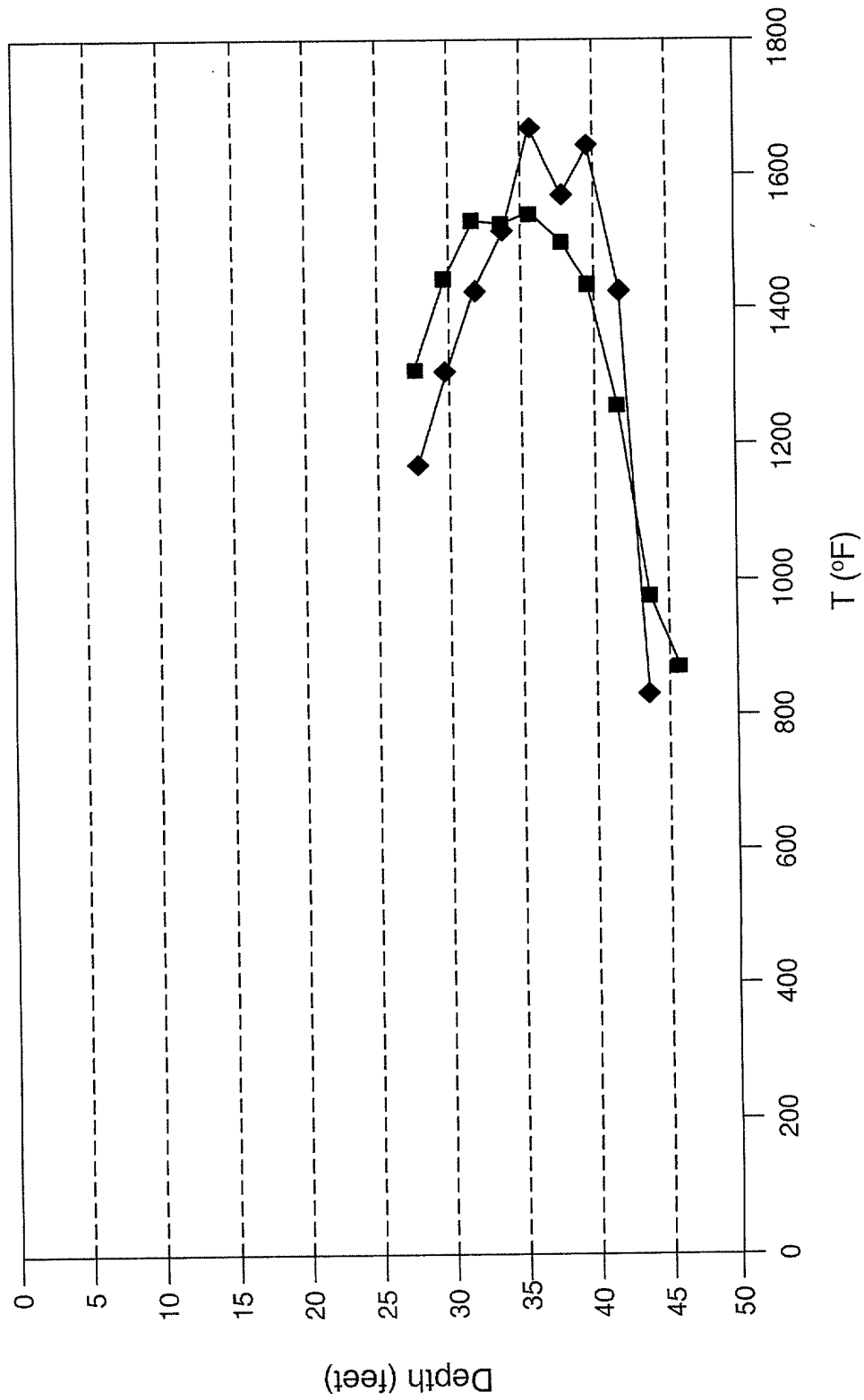


FIG. 130

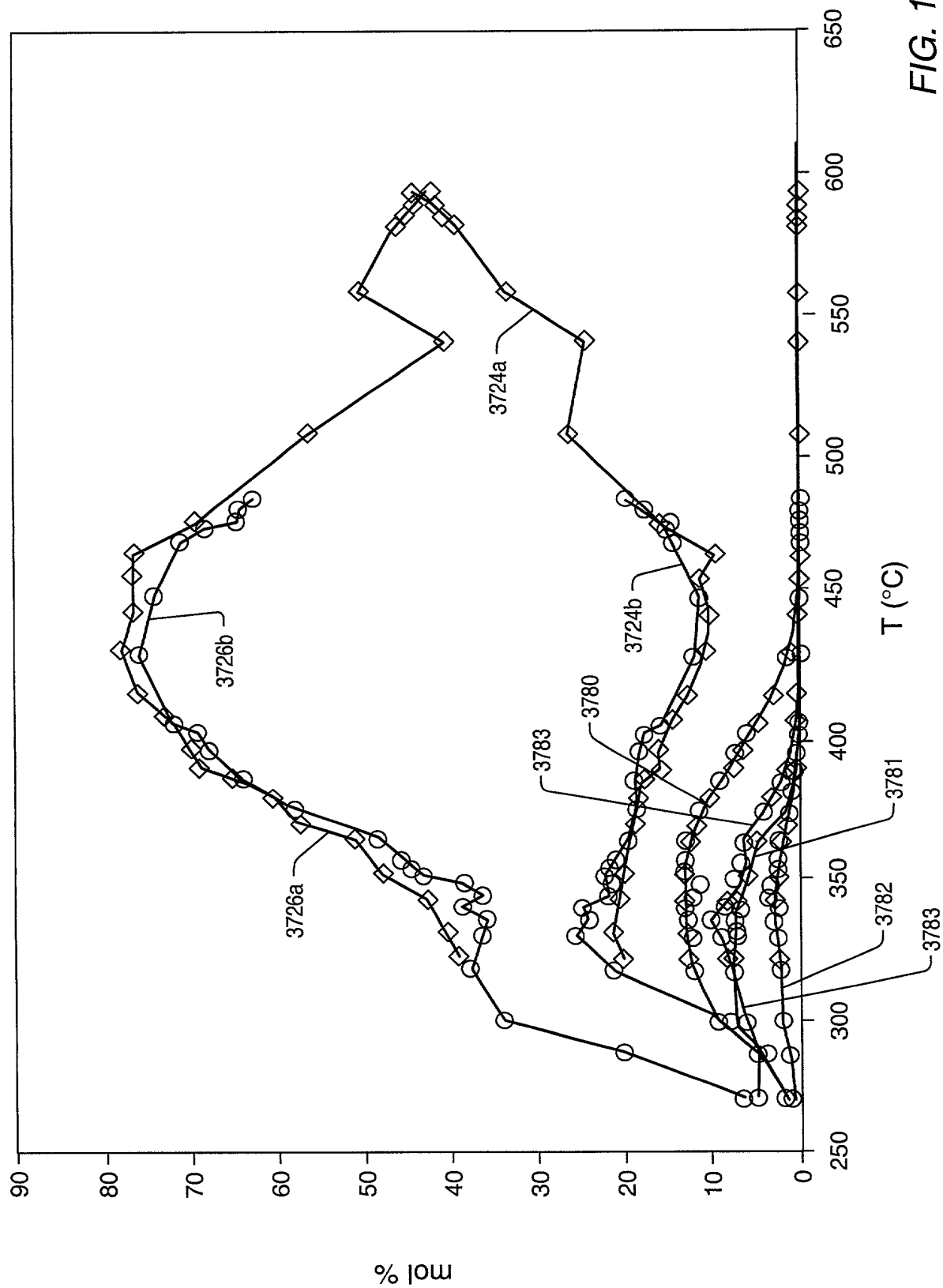


FIG. 131

FIG. 132

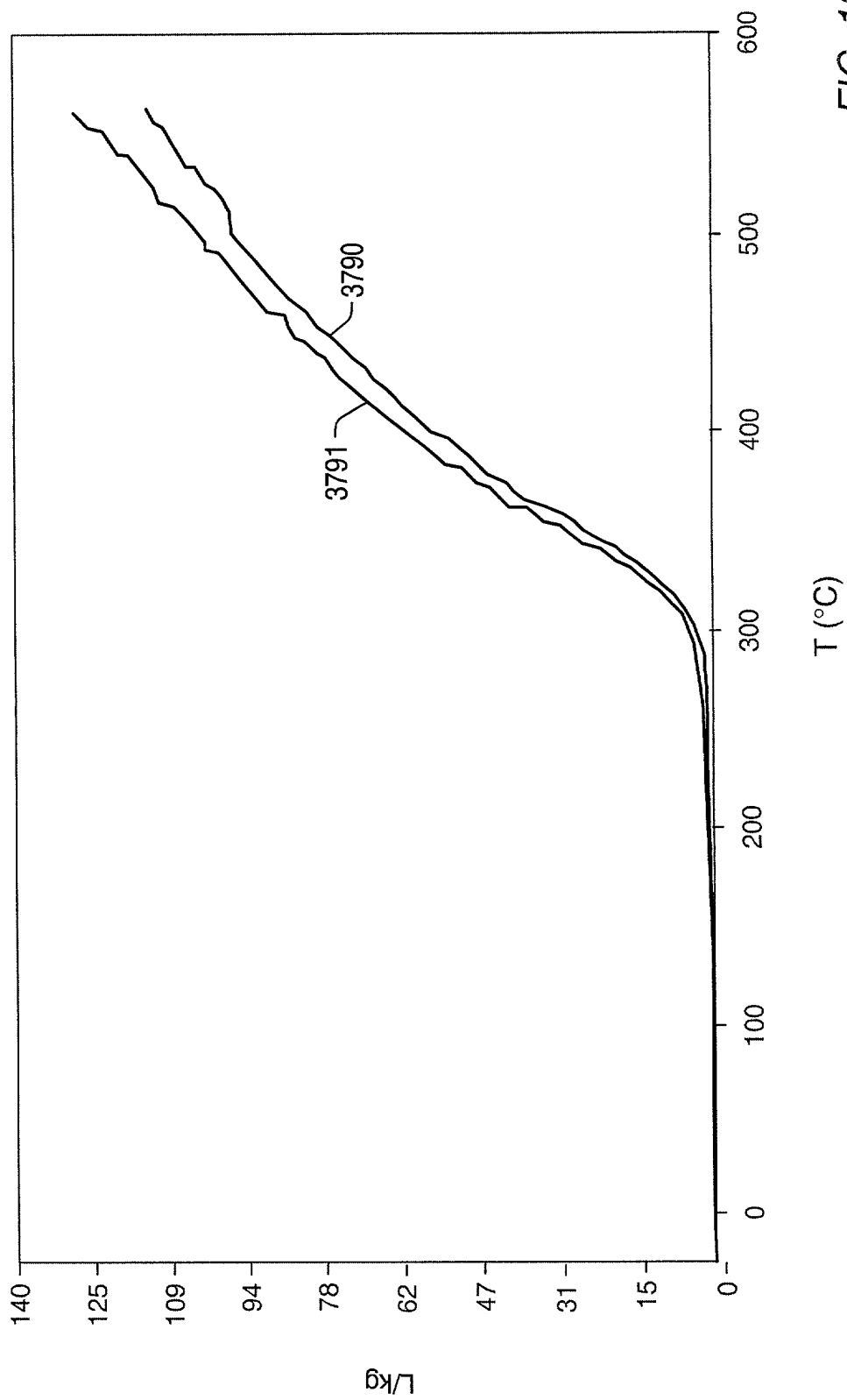


FIG. 132

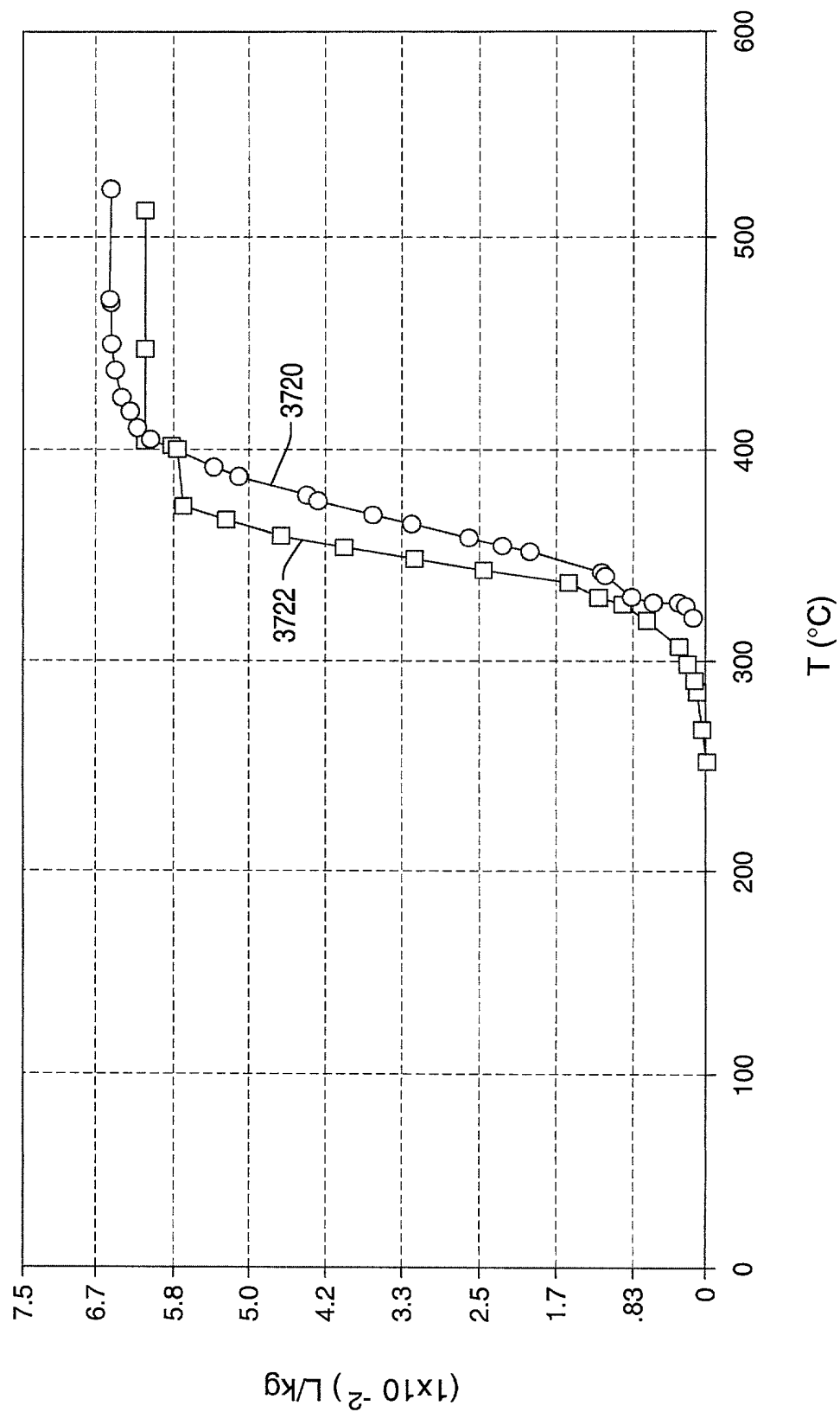


FIG. 133

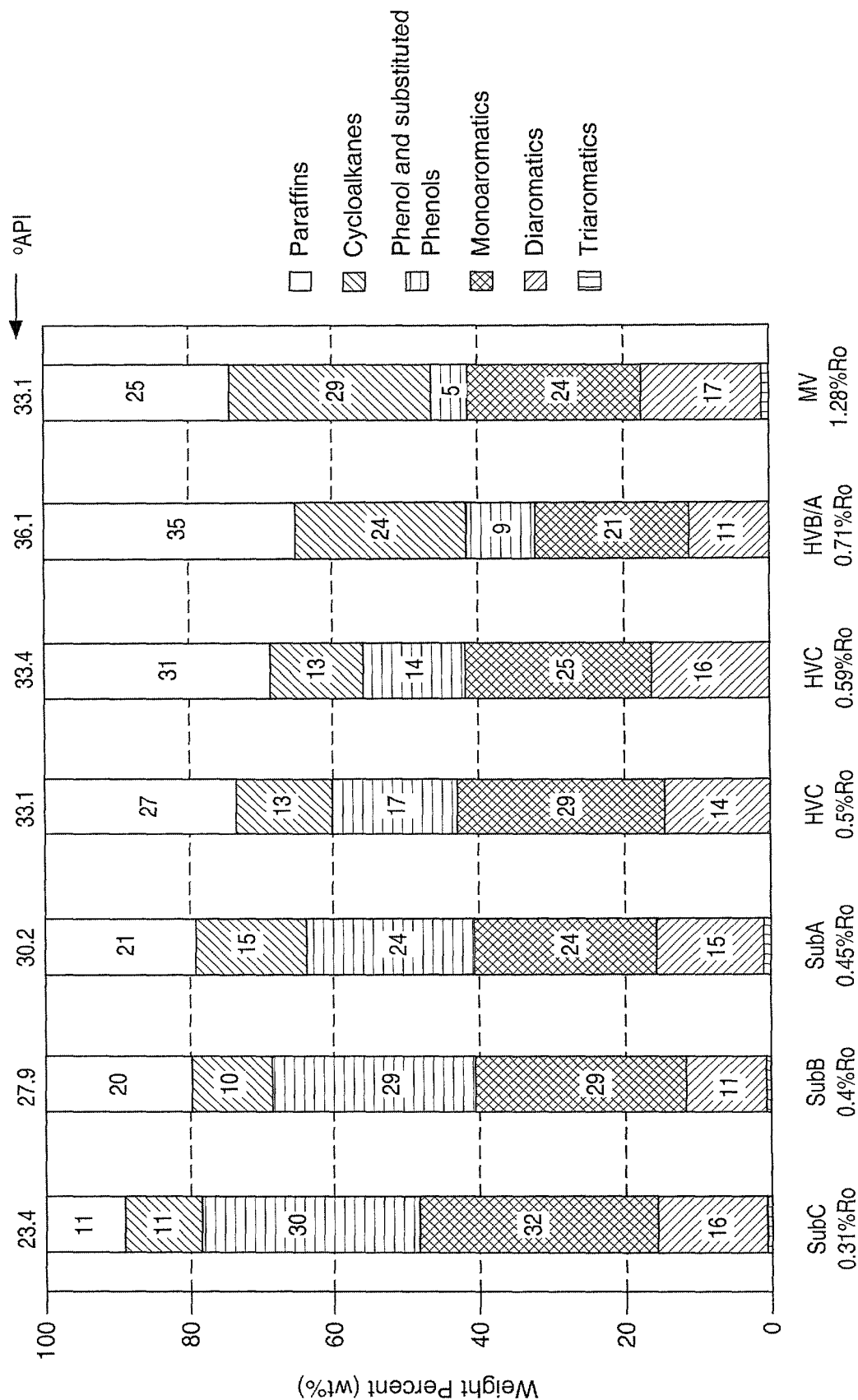


FIG. 134

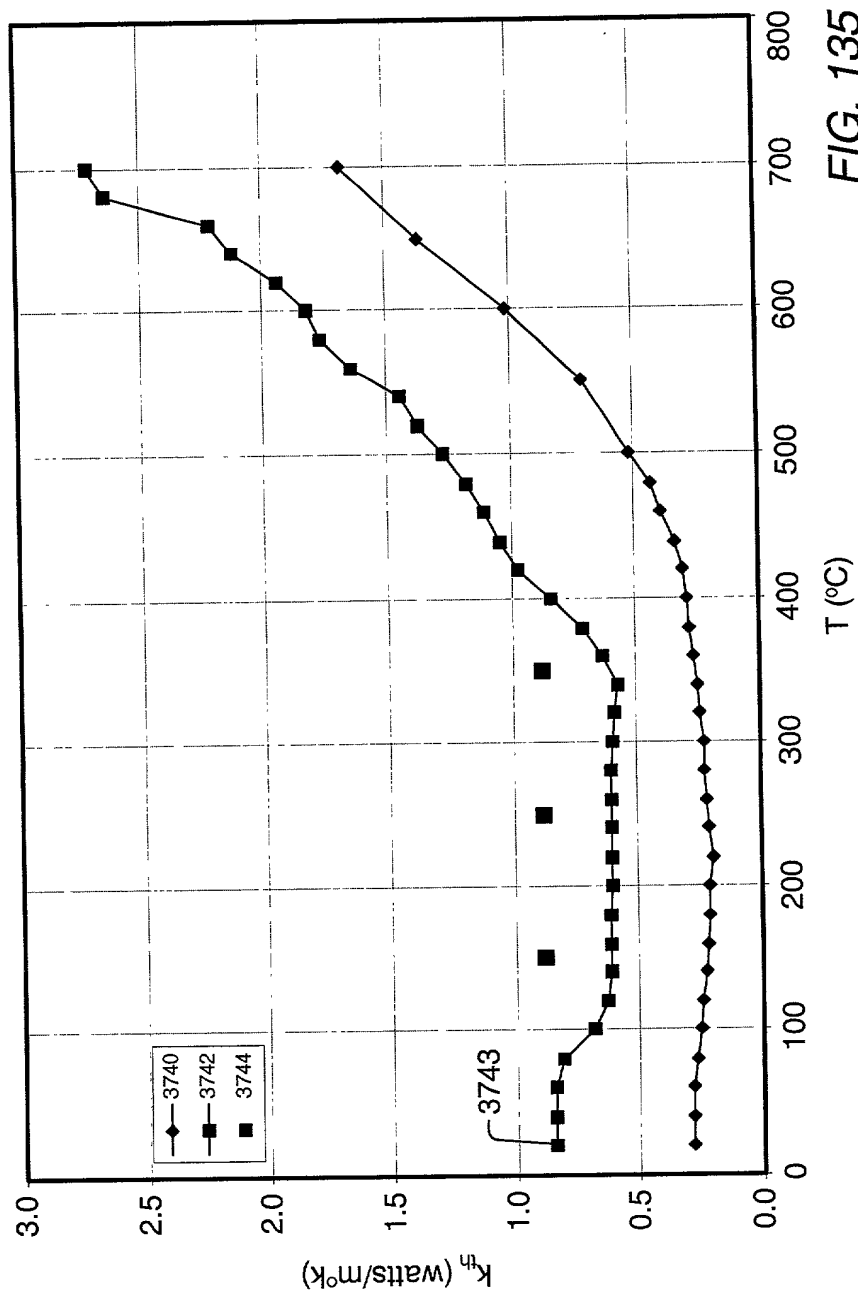


FIG. 135

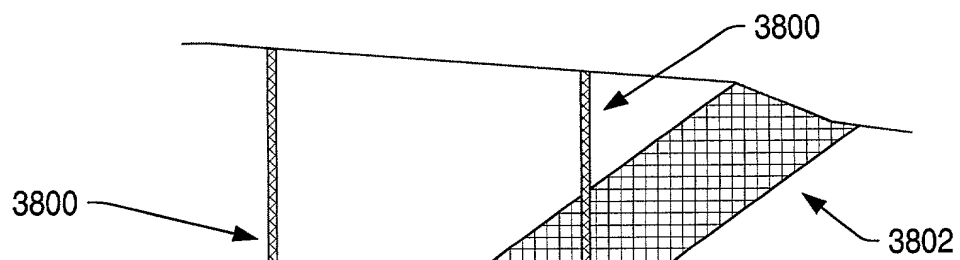


FIG. 136

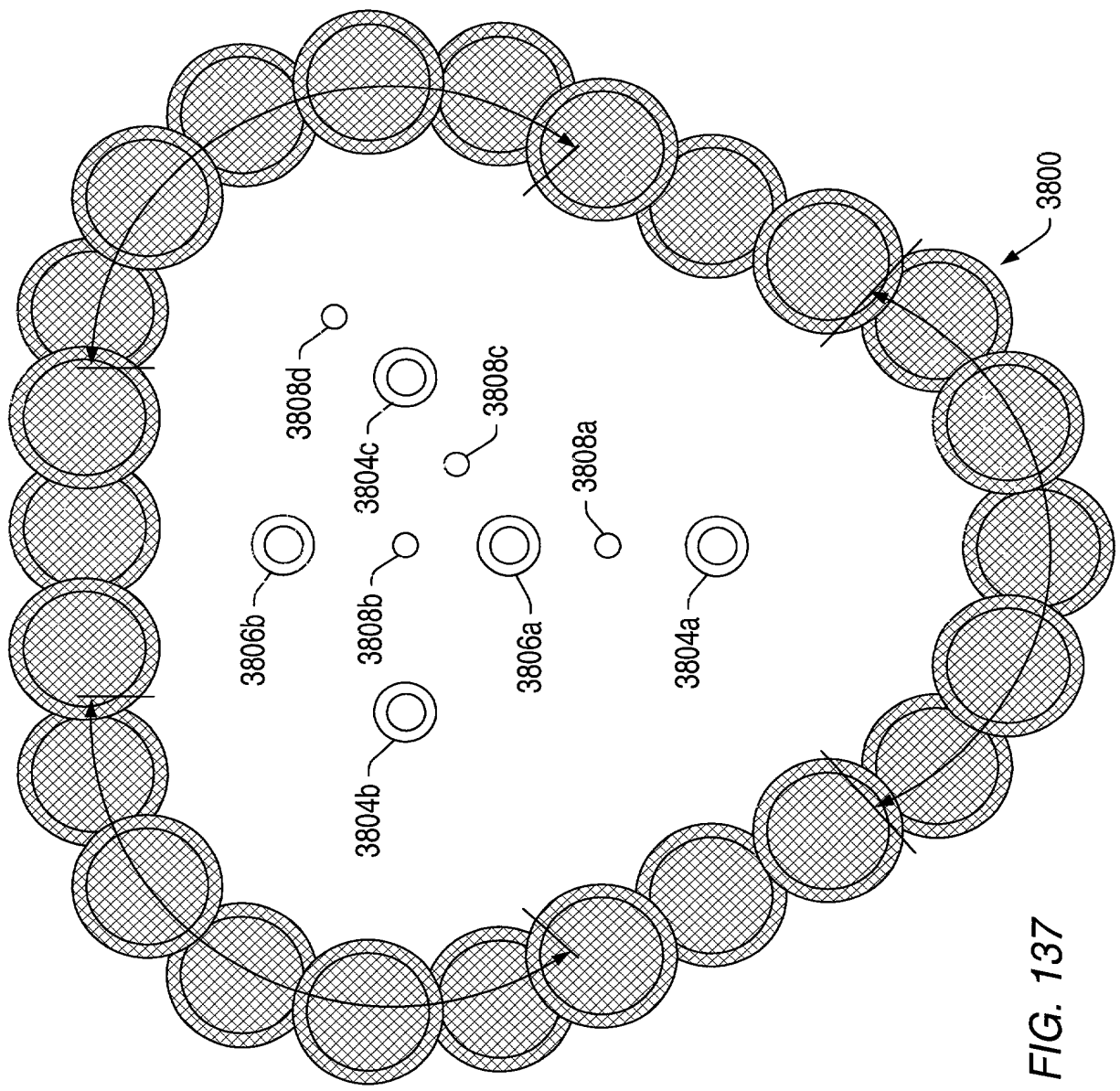


FIG. 137

FIG. 138

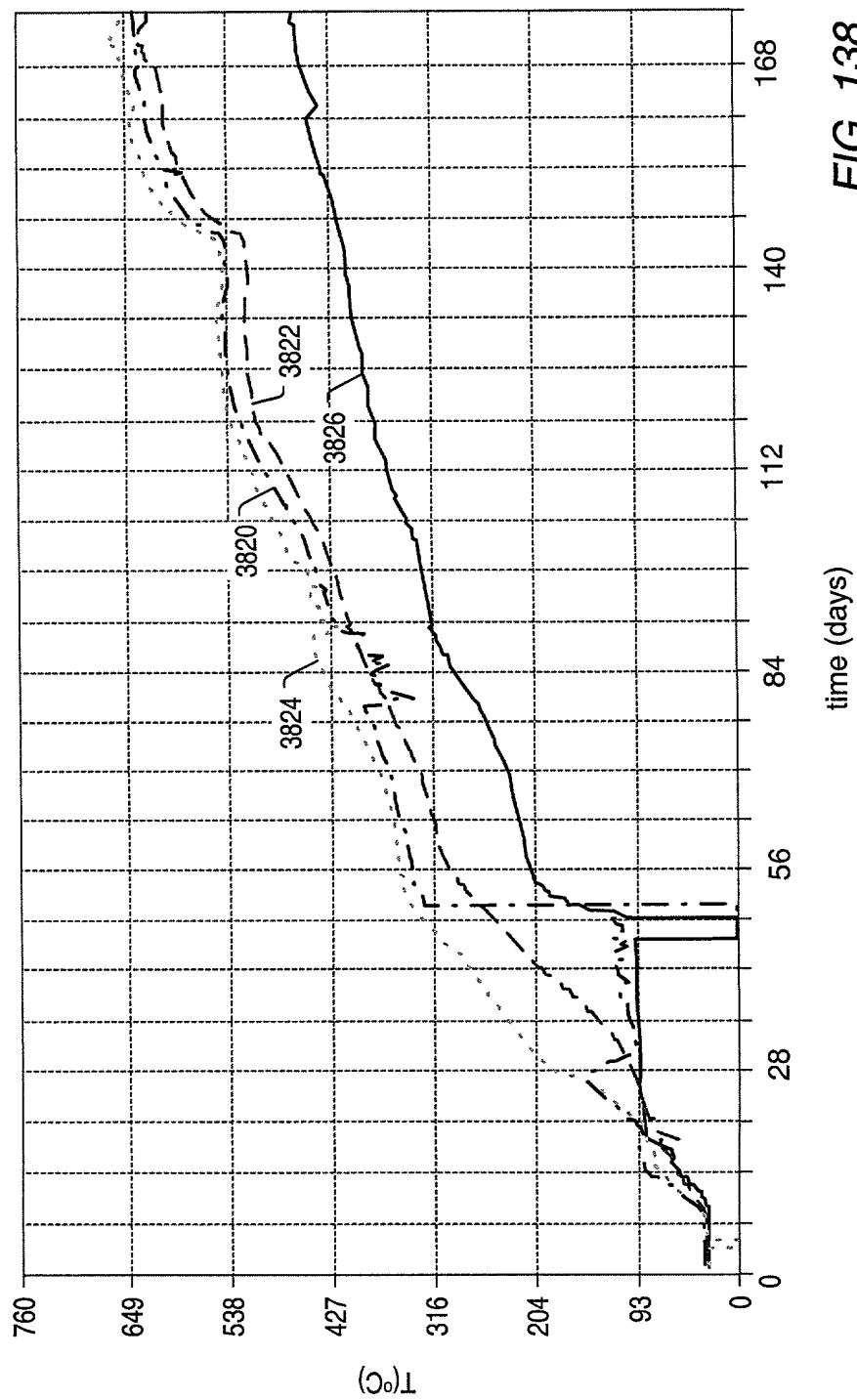


FIG. 138

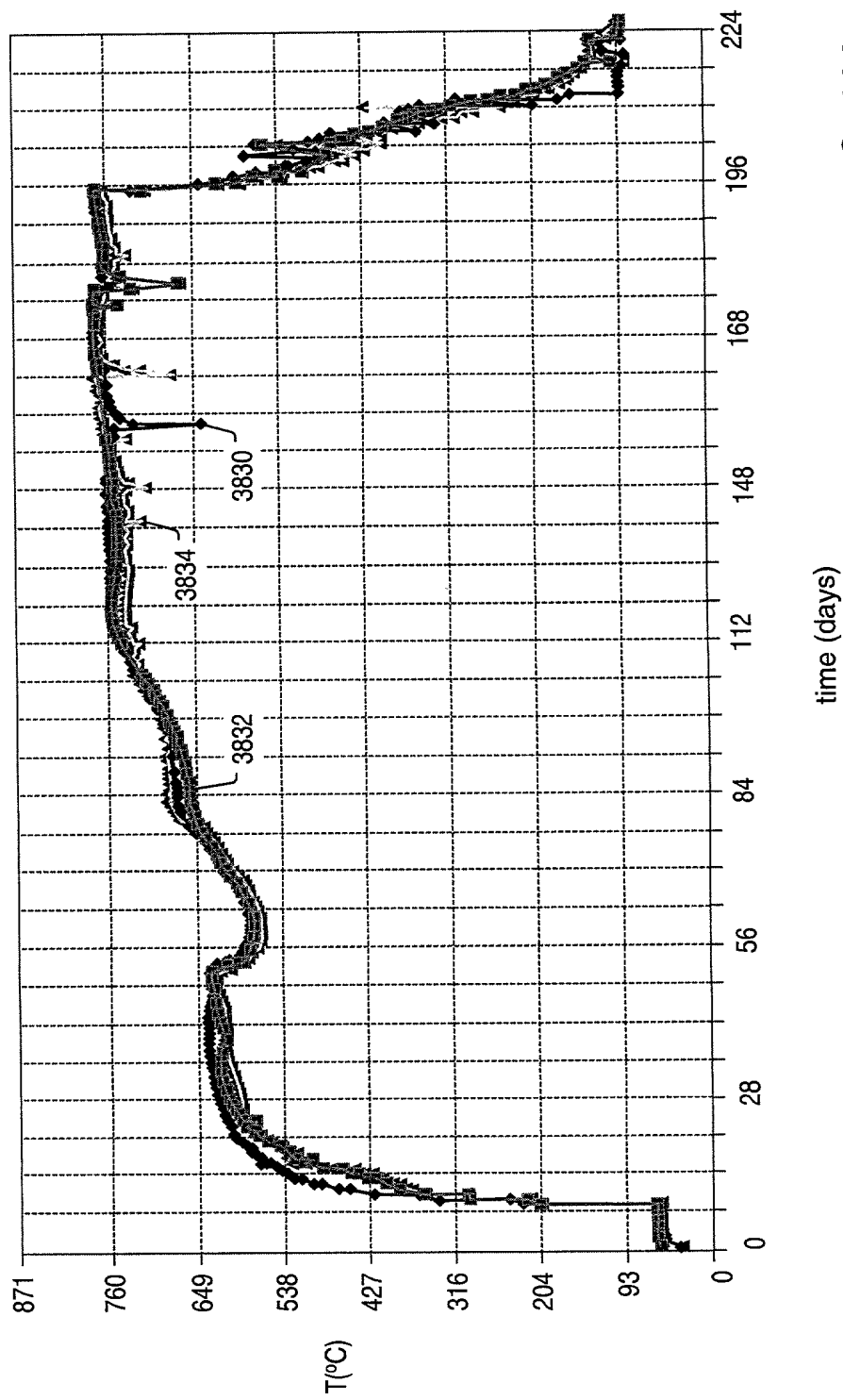


FIG. 139

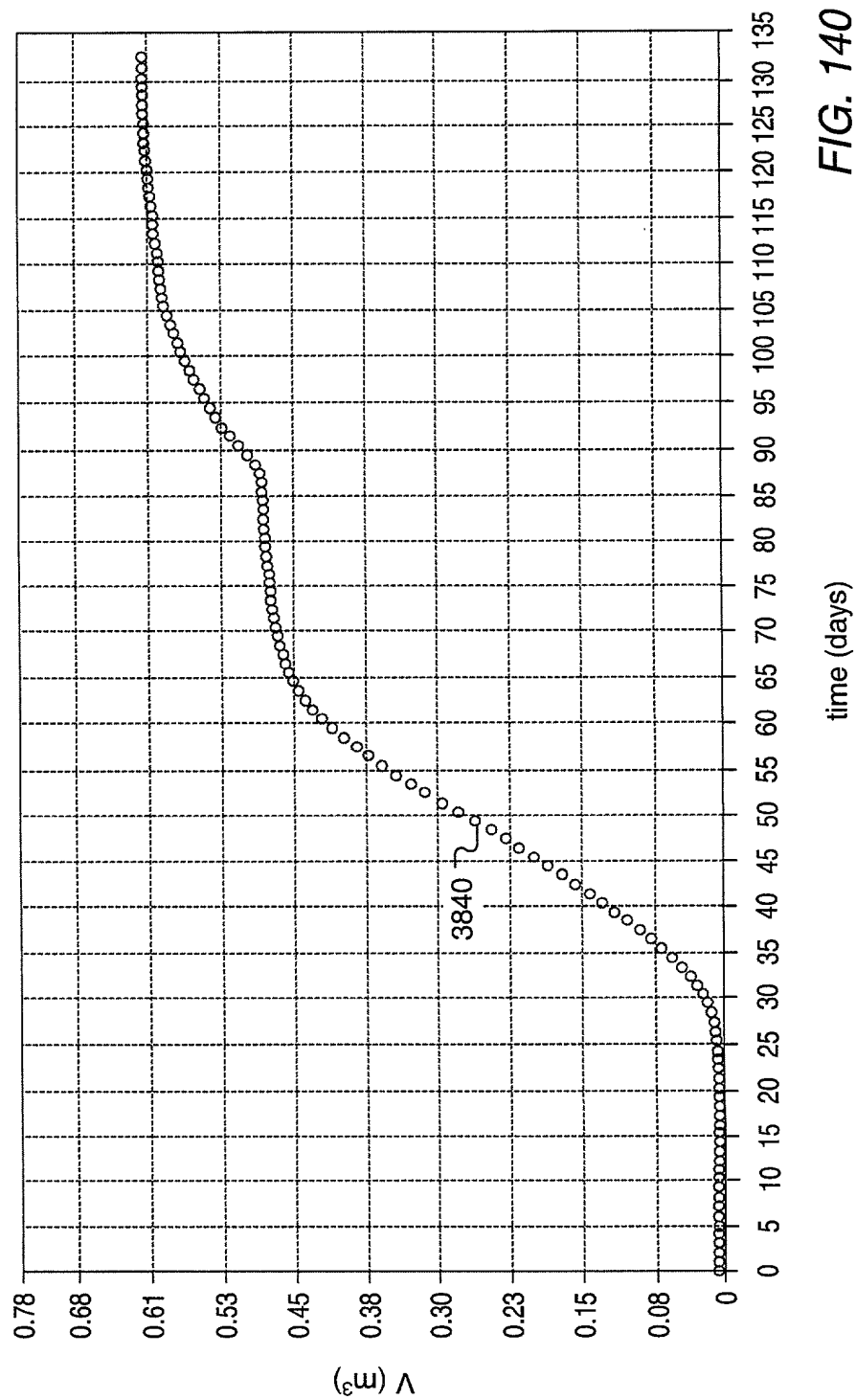


FIG. 140

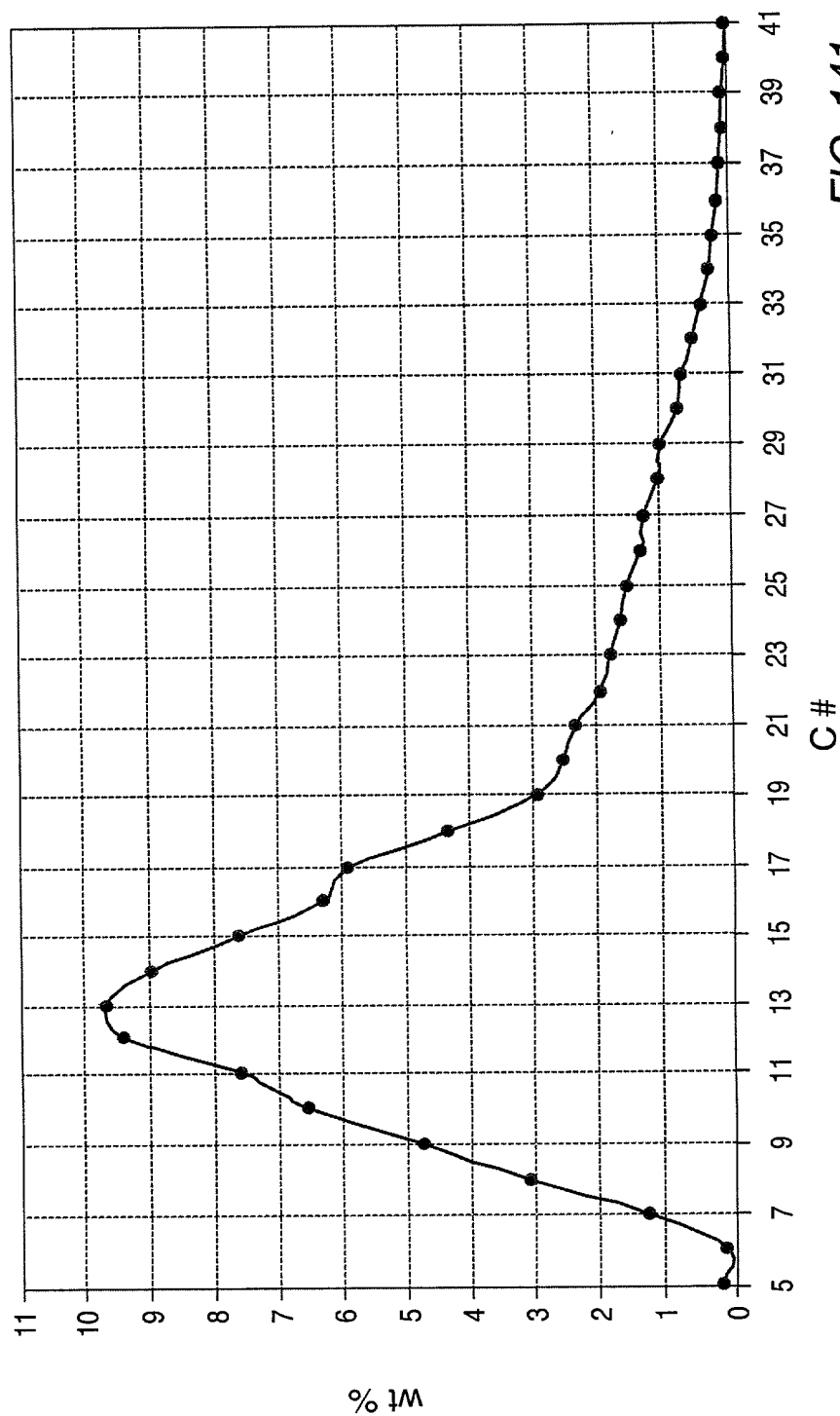


FIG. 141

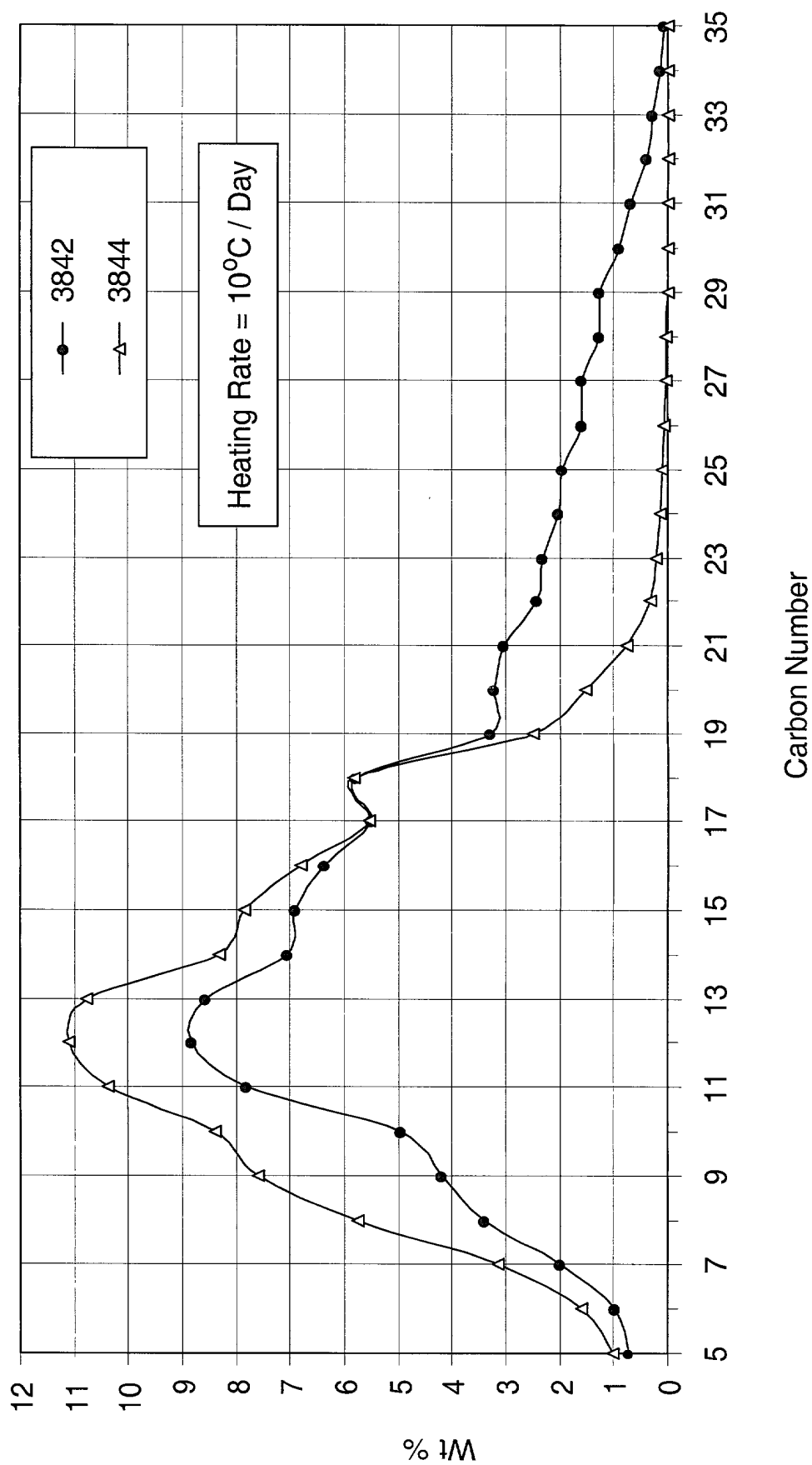


FIG. 142

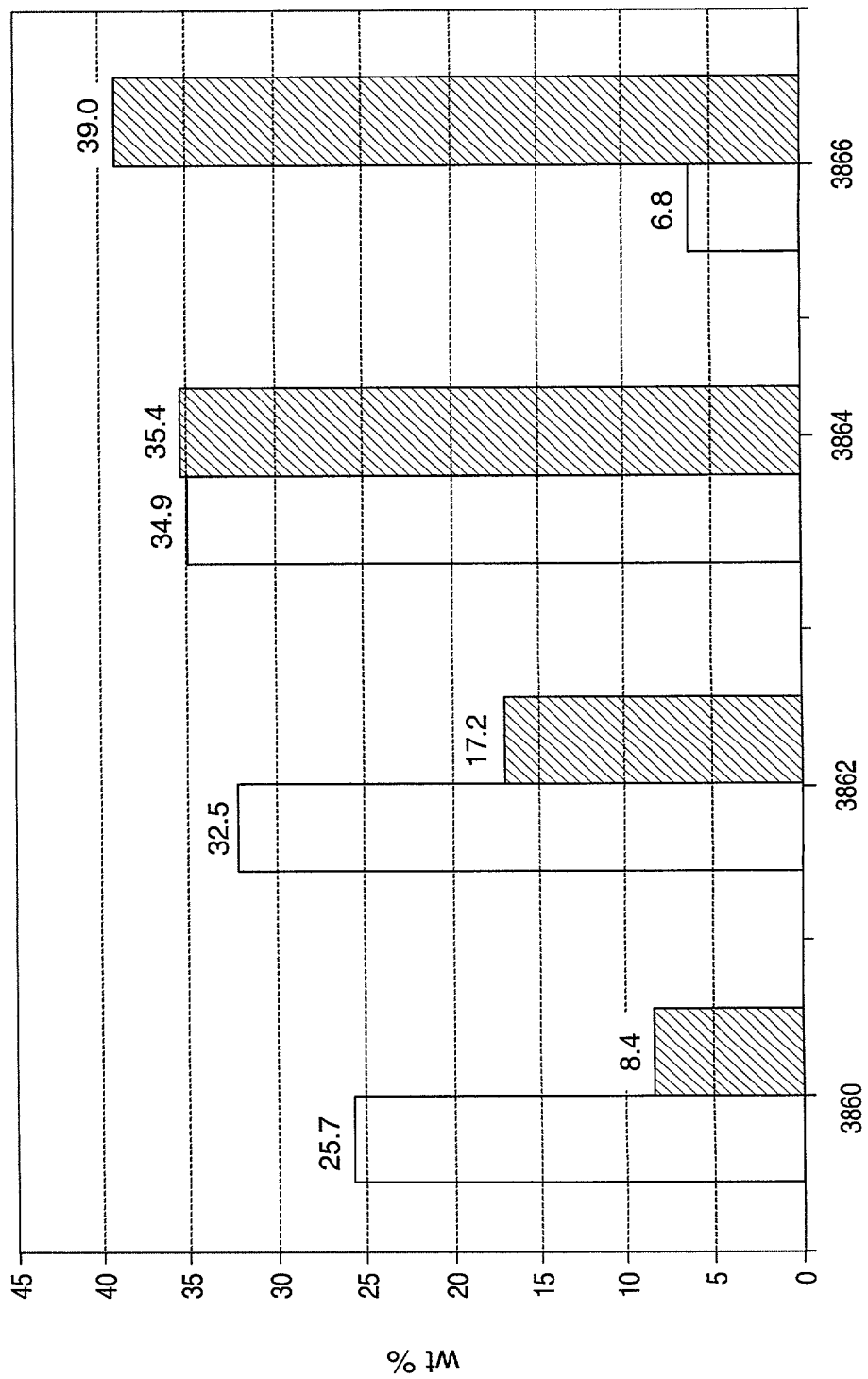


FIG. 143

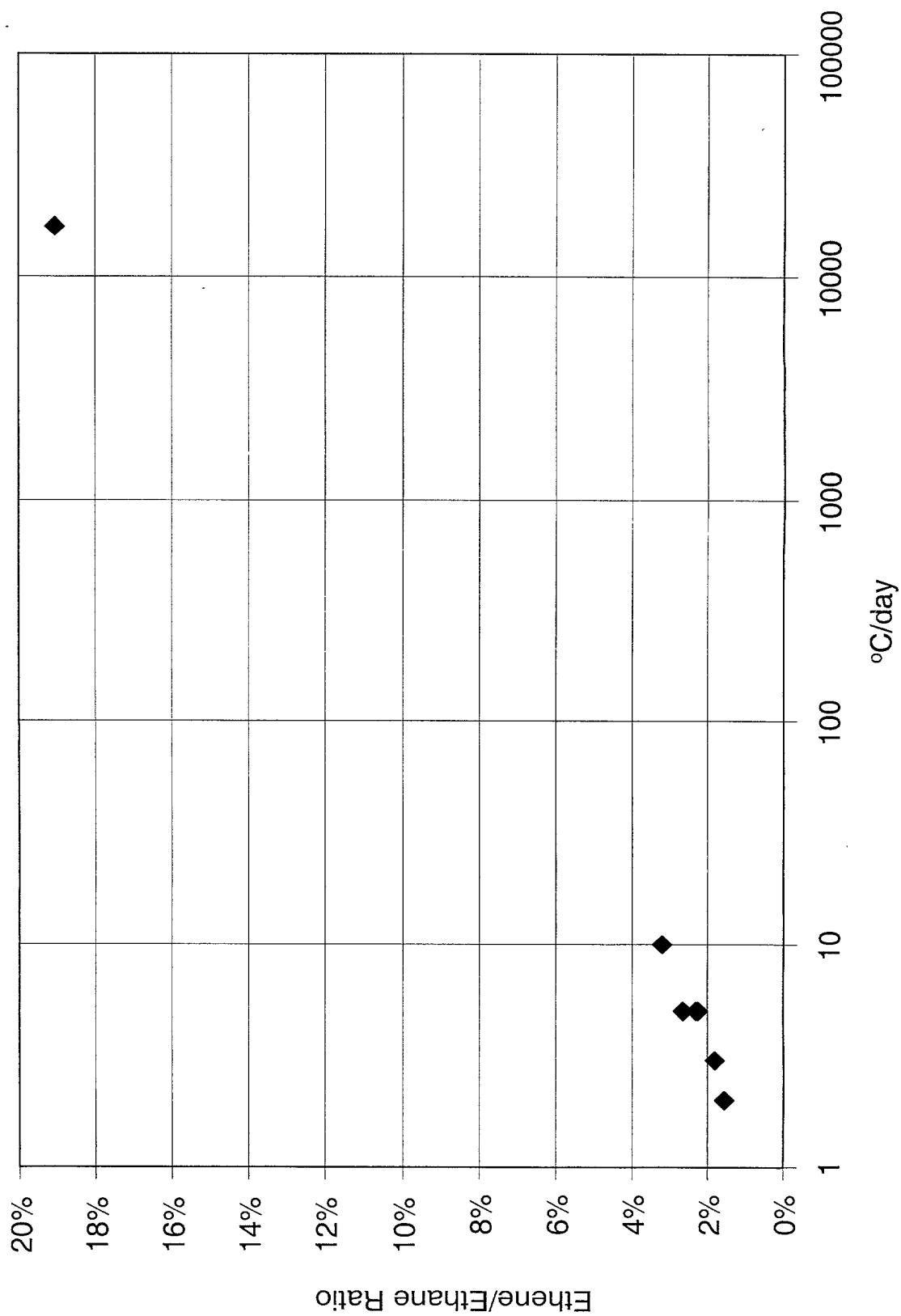


FIG. 144

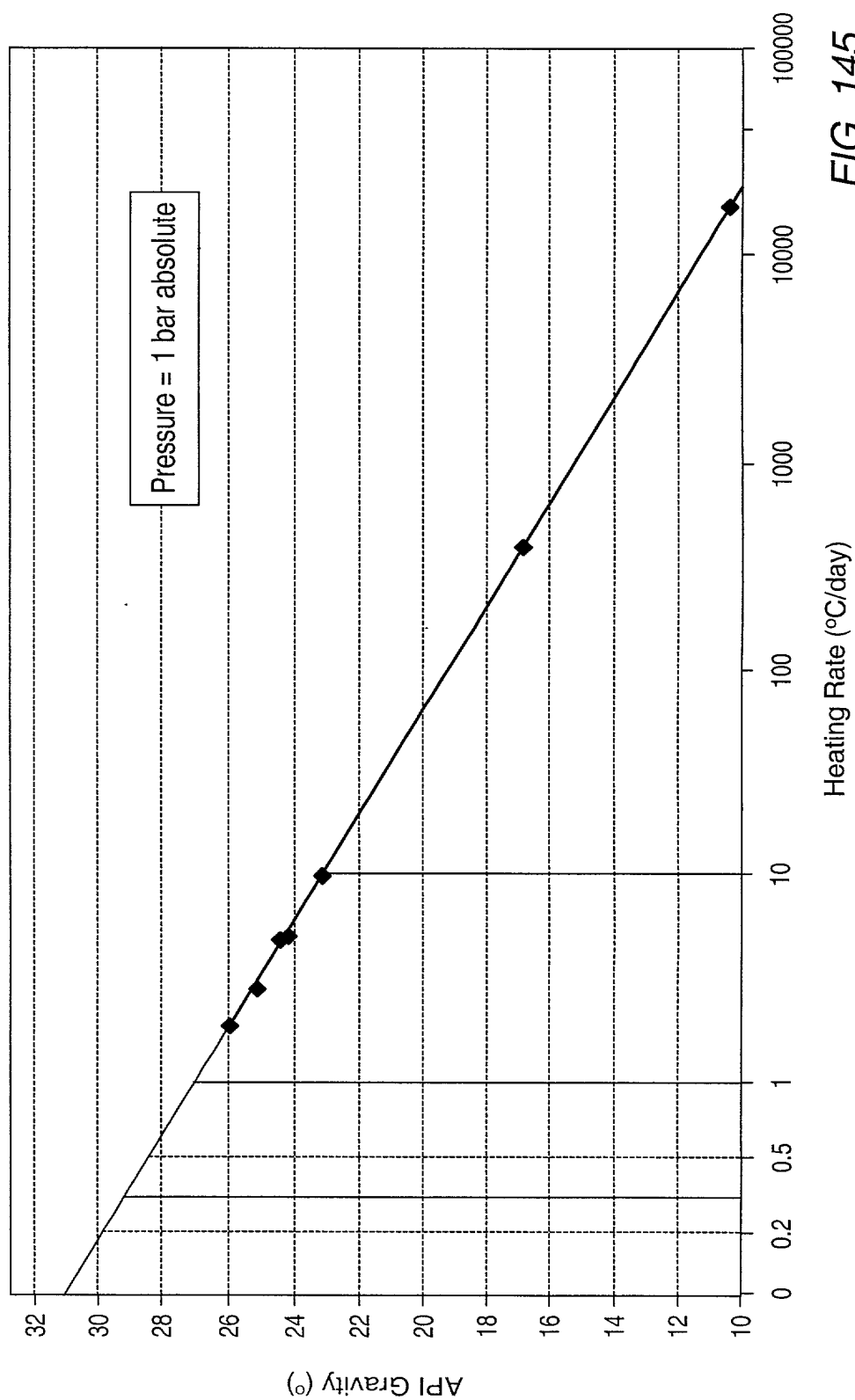


FIG. 145

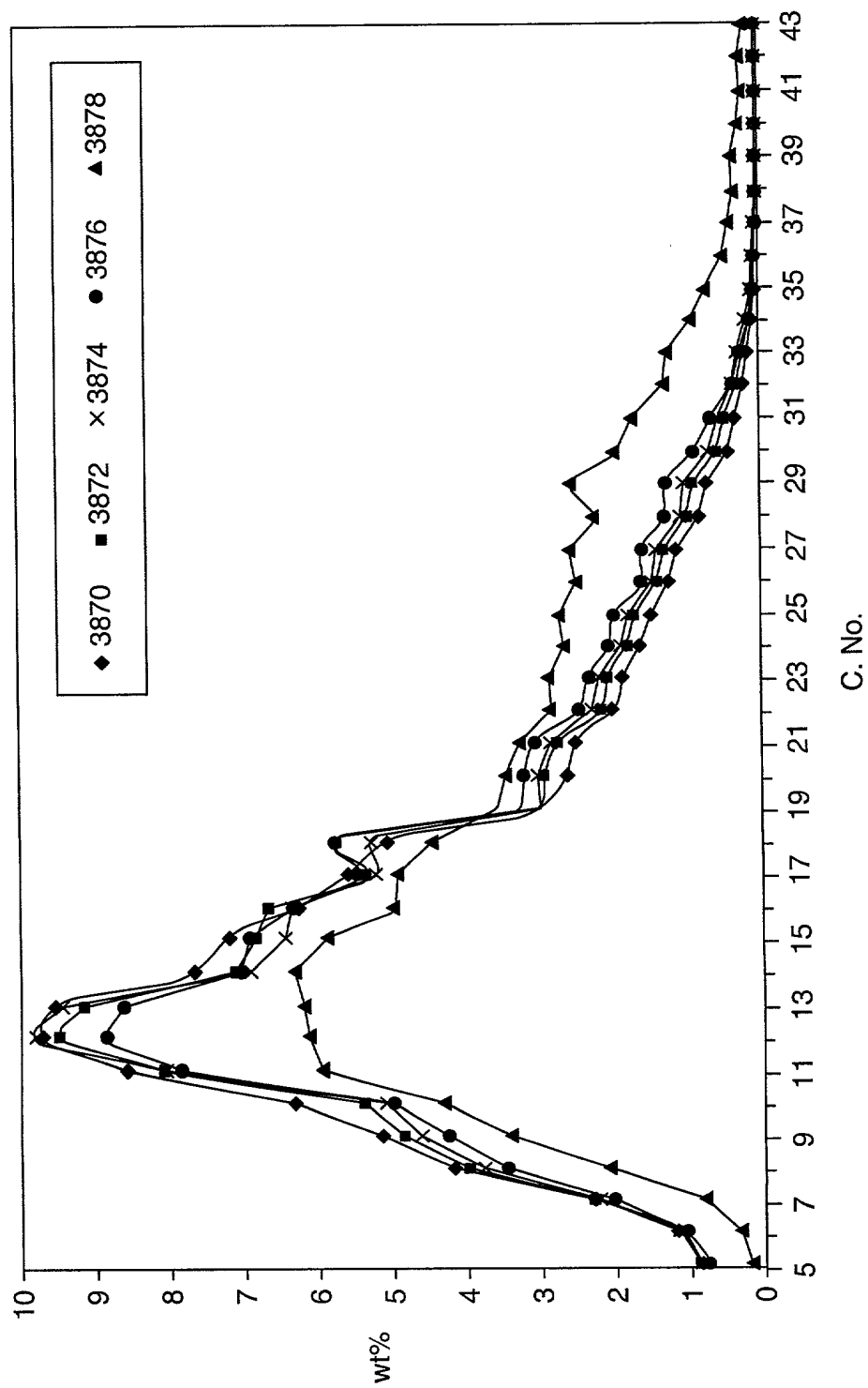


FIG. 146

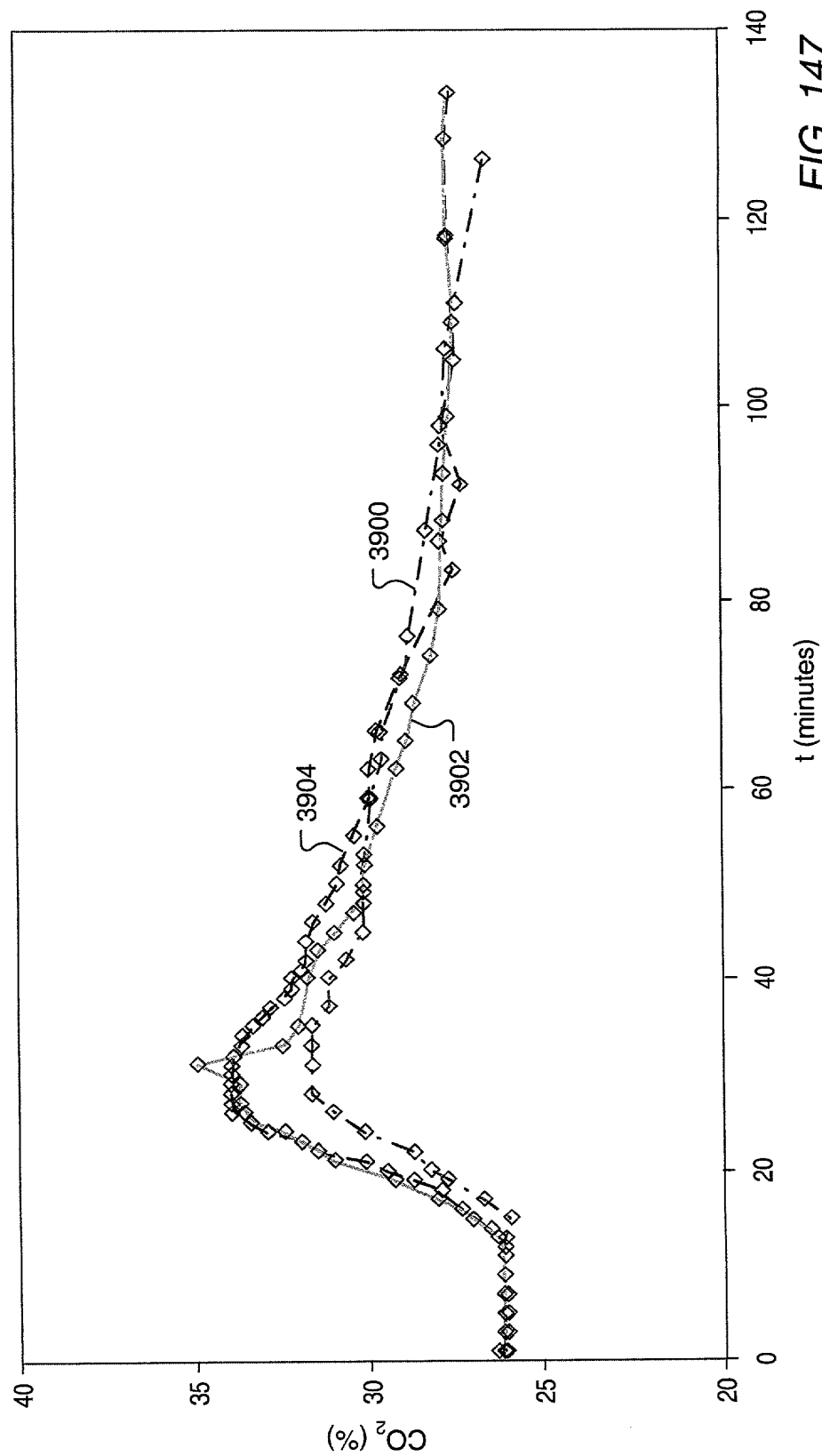


FIG. 147

15900
13600
11300
9070
6880
4540
2270
0

wt. (kg)

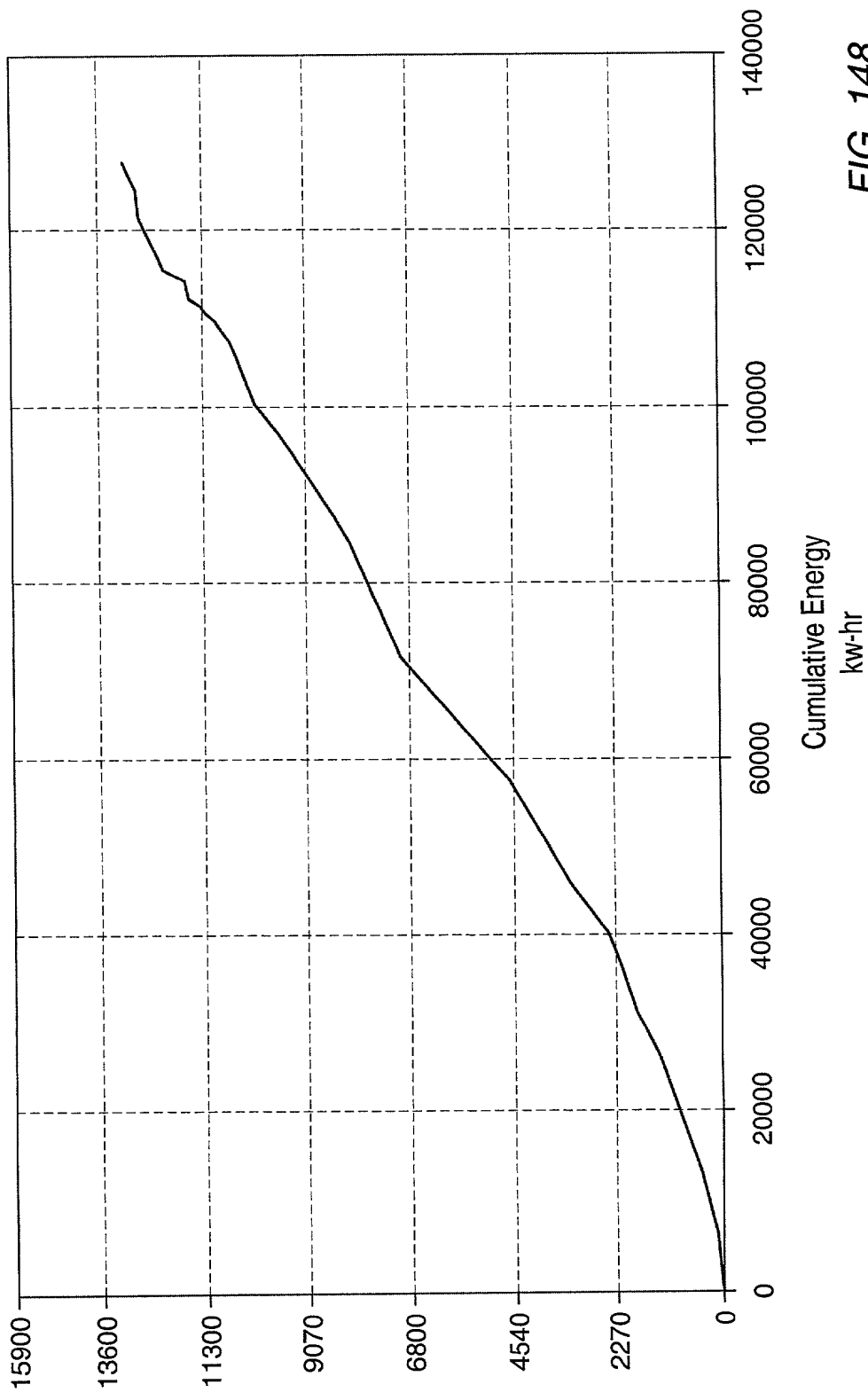


FIG. 148

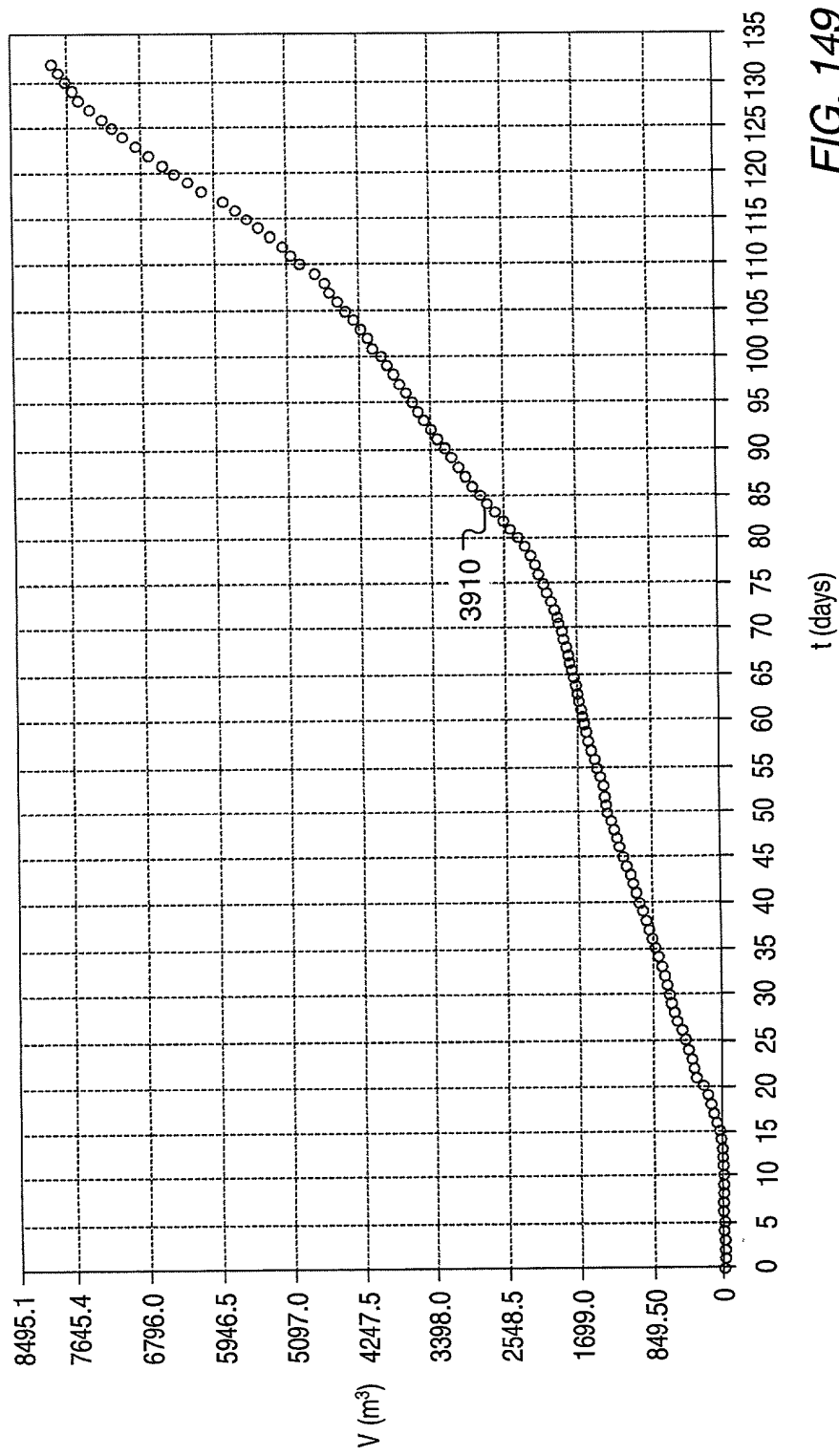


FIG. 149

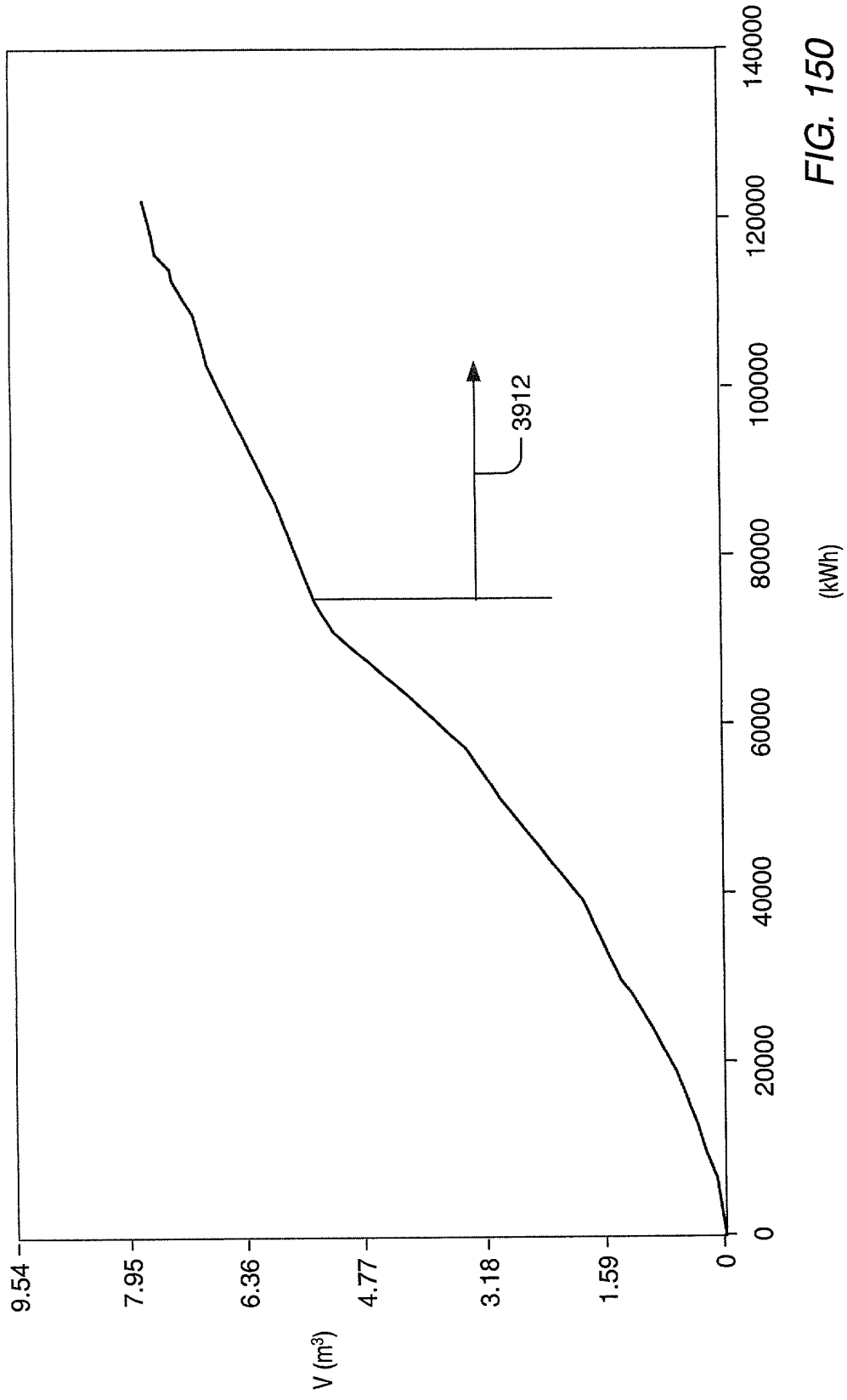


FIG. 150

FIG. 151

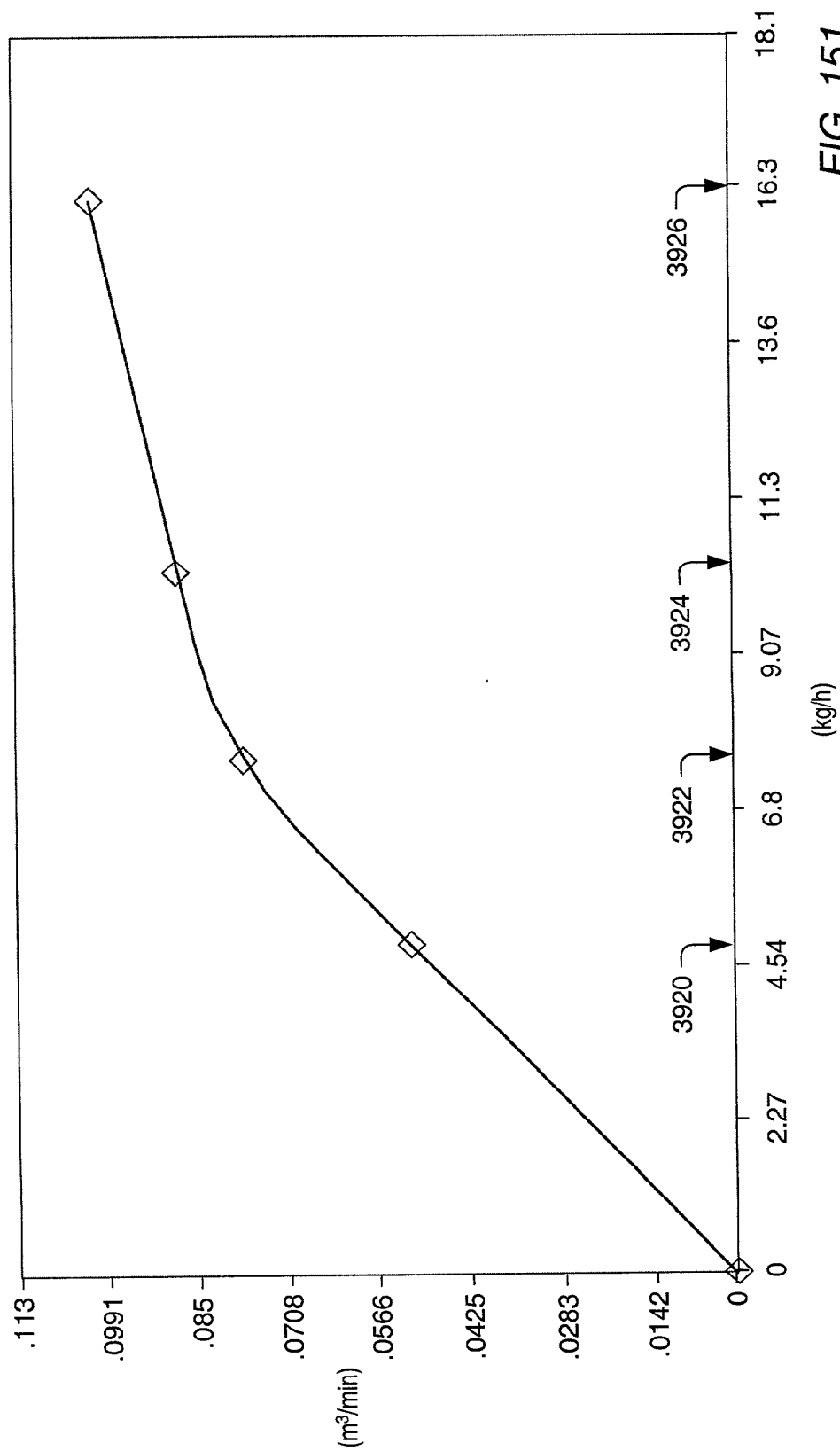


FIG. 151

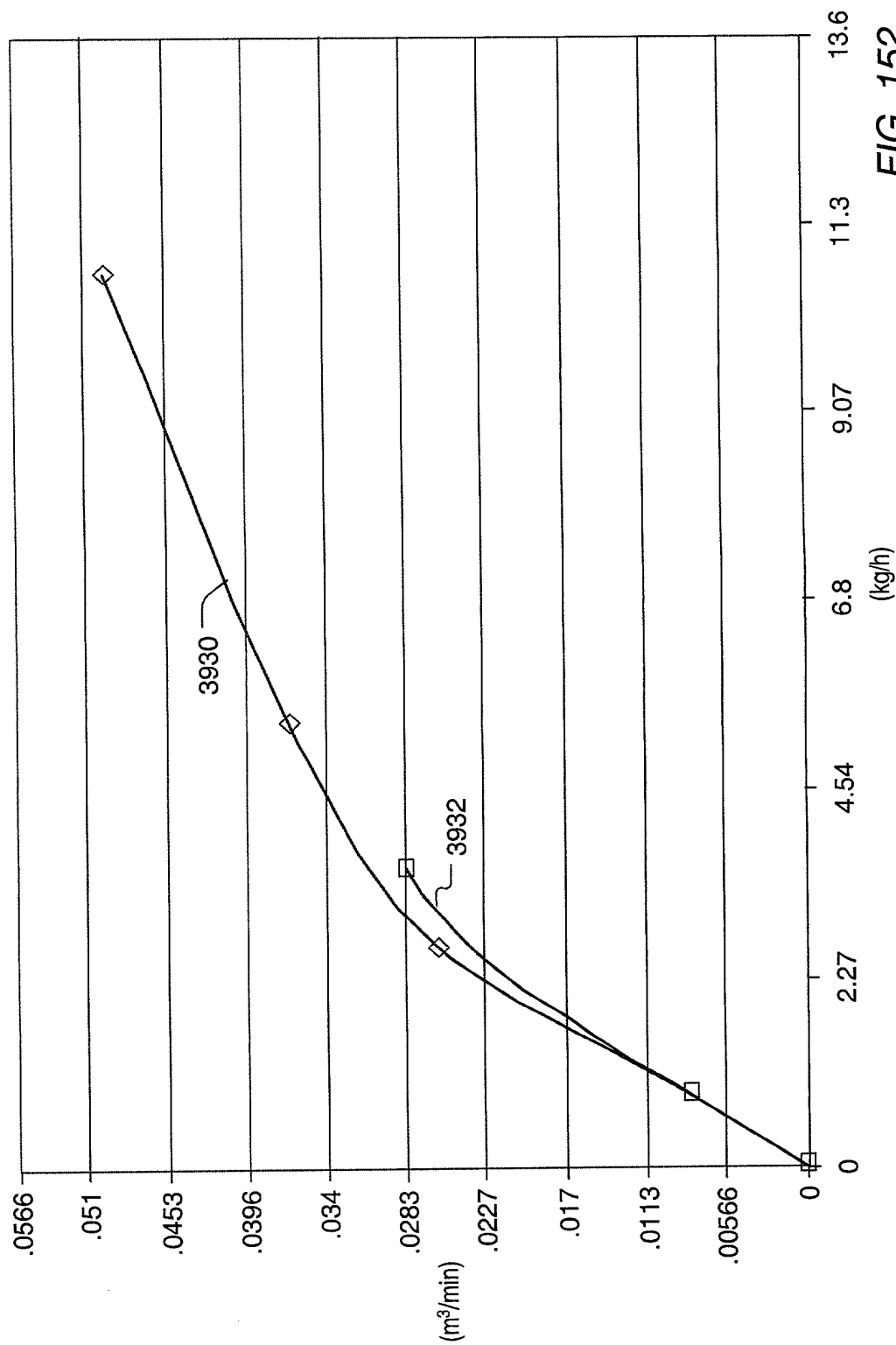
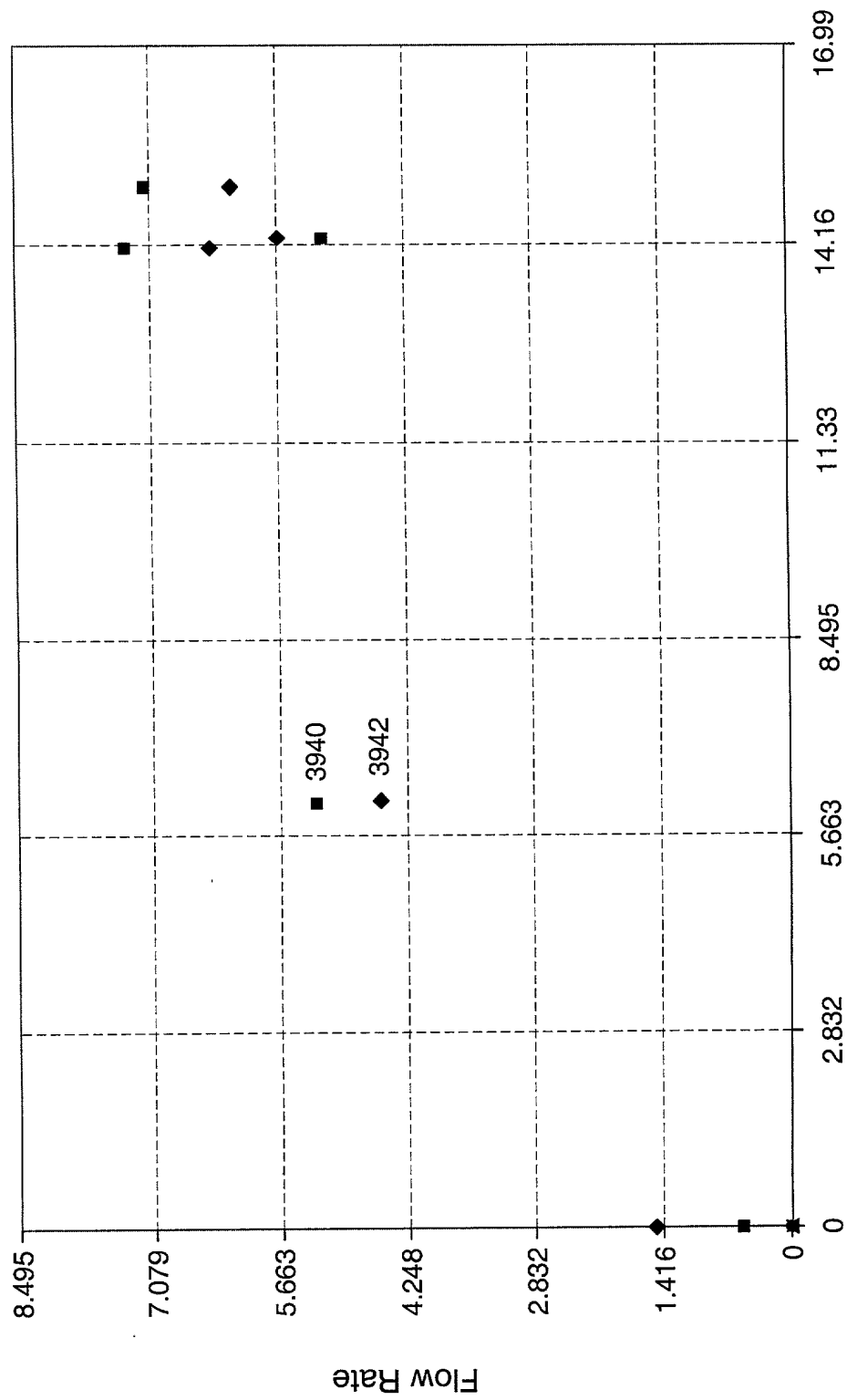


FIG. 152



Methane Injection Rate (m³/hr)

FIG. 153

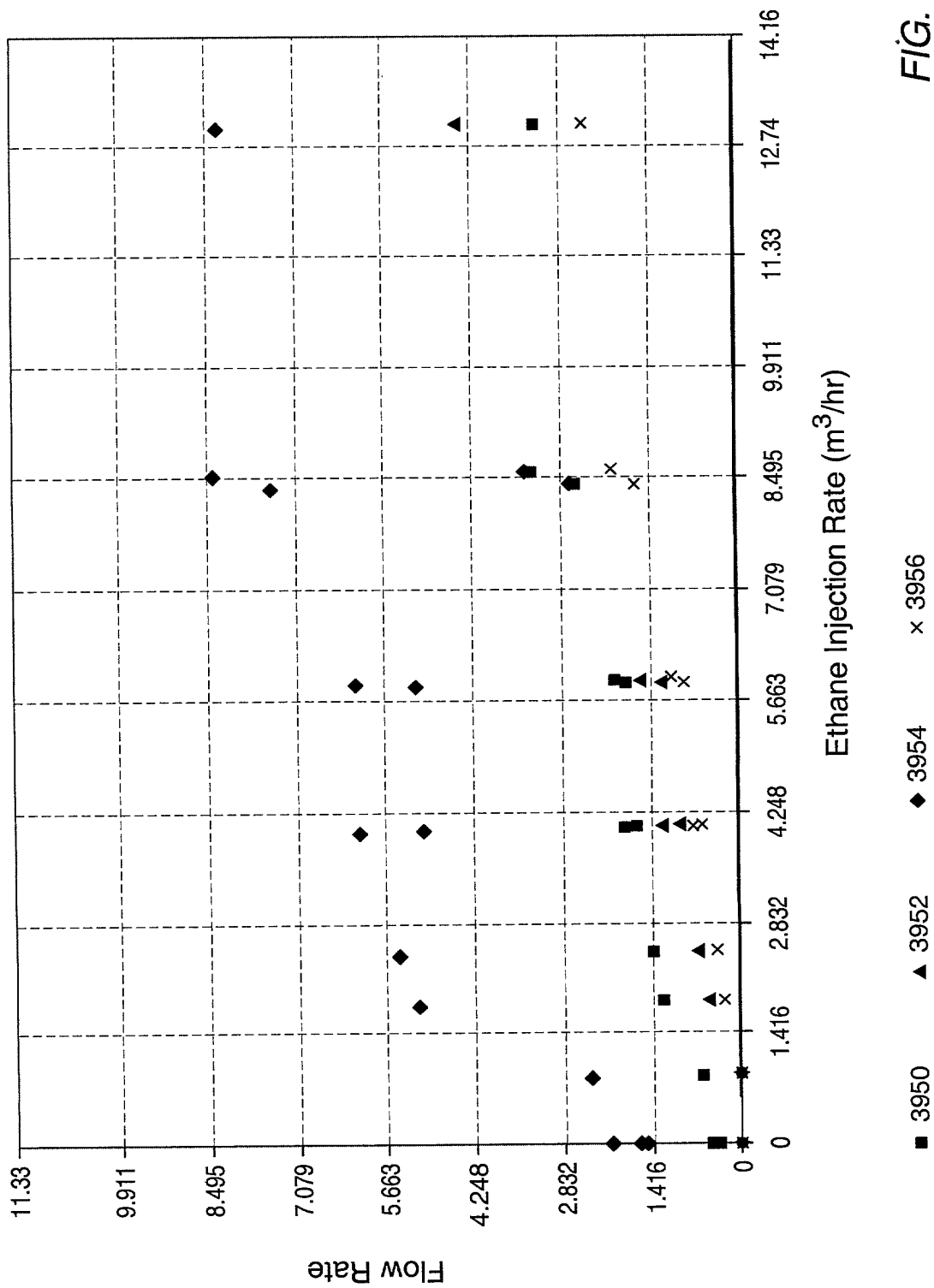
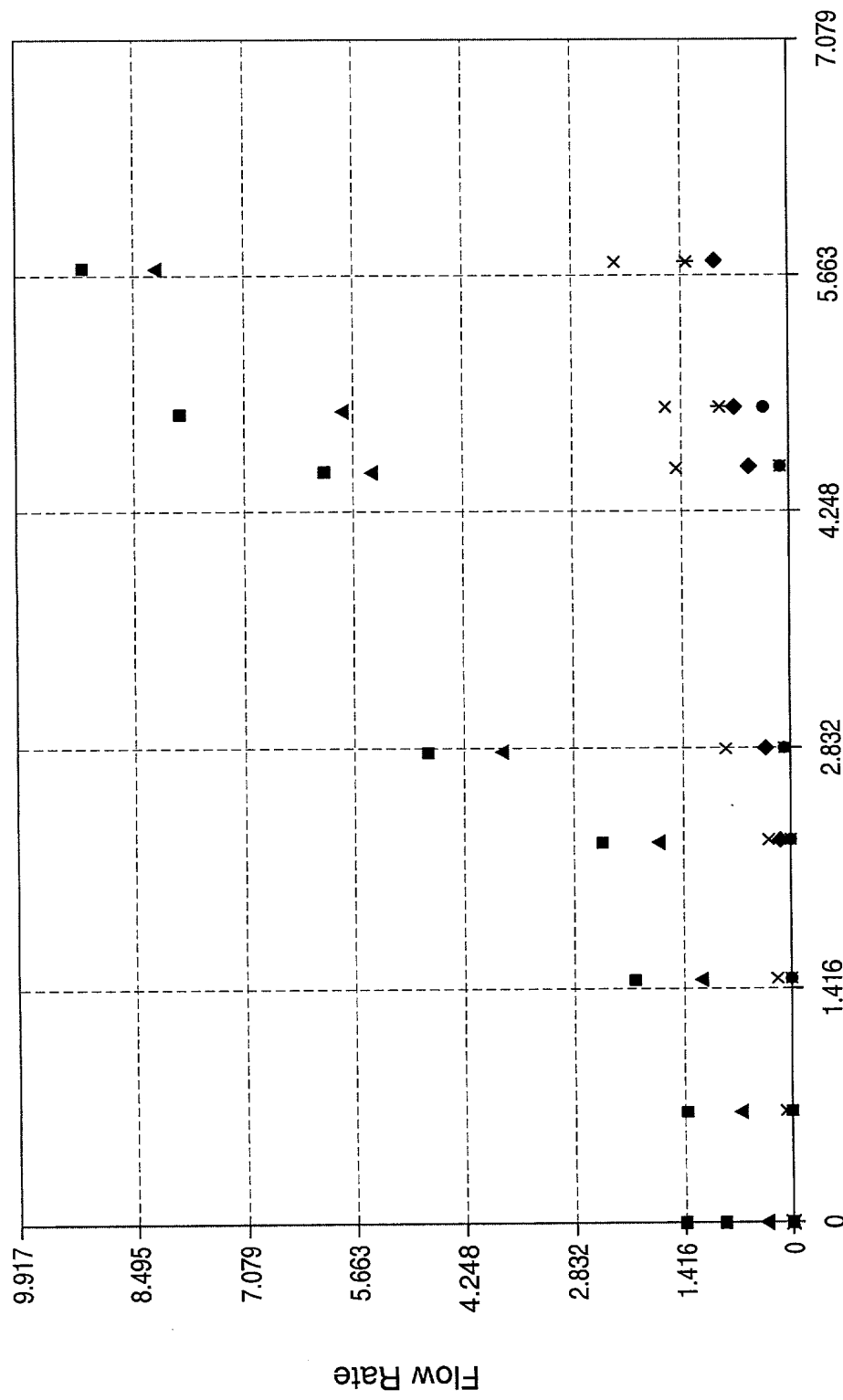


FIG. 154

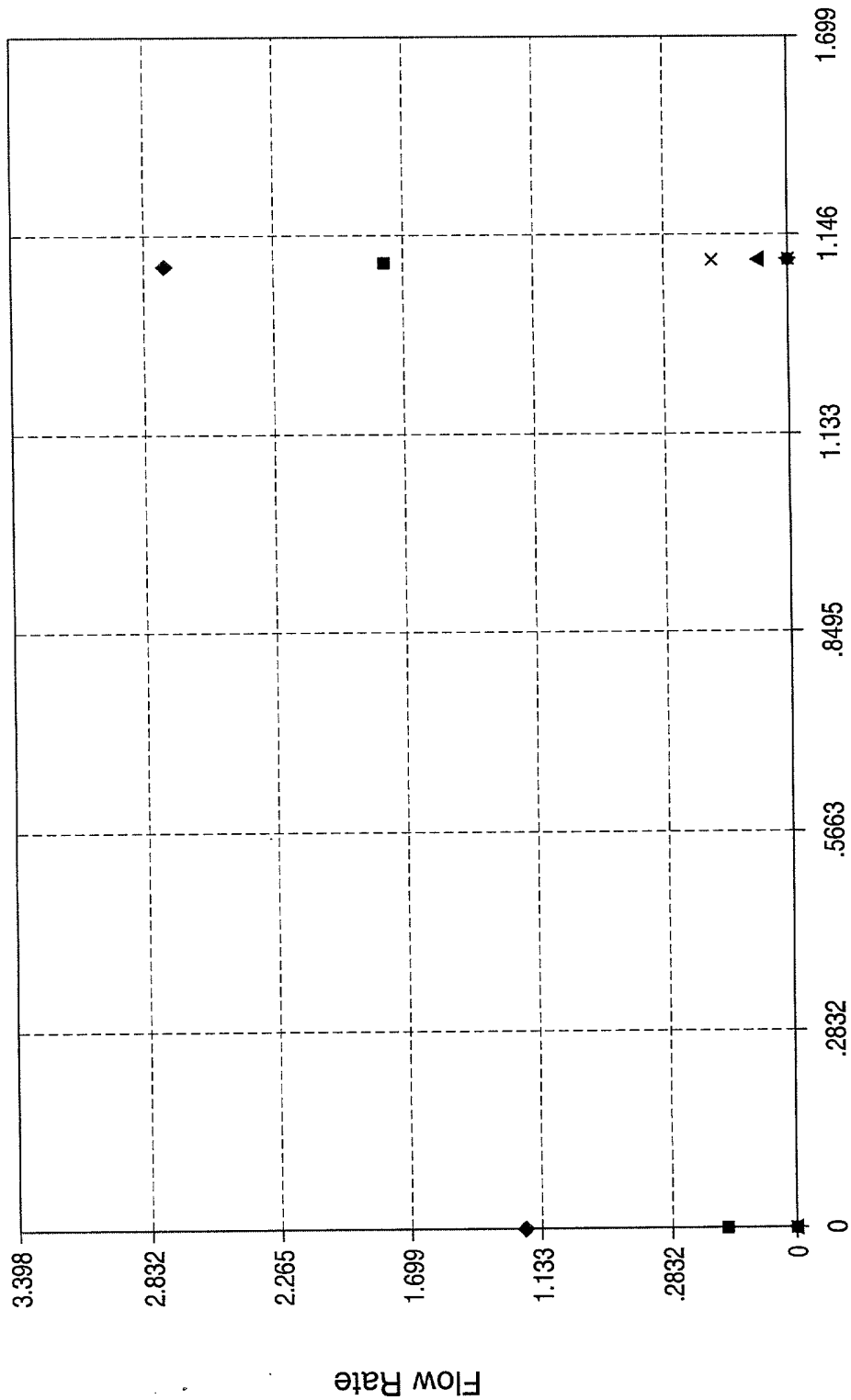
Flow Rate (m³/hr) vs. Propane Injection Rate (m³/hr)



Propane Injection Rate (m³/hr)

3960
 3962
 3964
 3966
 3968
 3969

FIG. 155



Butane Injection Rate (m³/hr)

FIG. 156

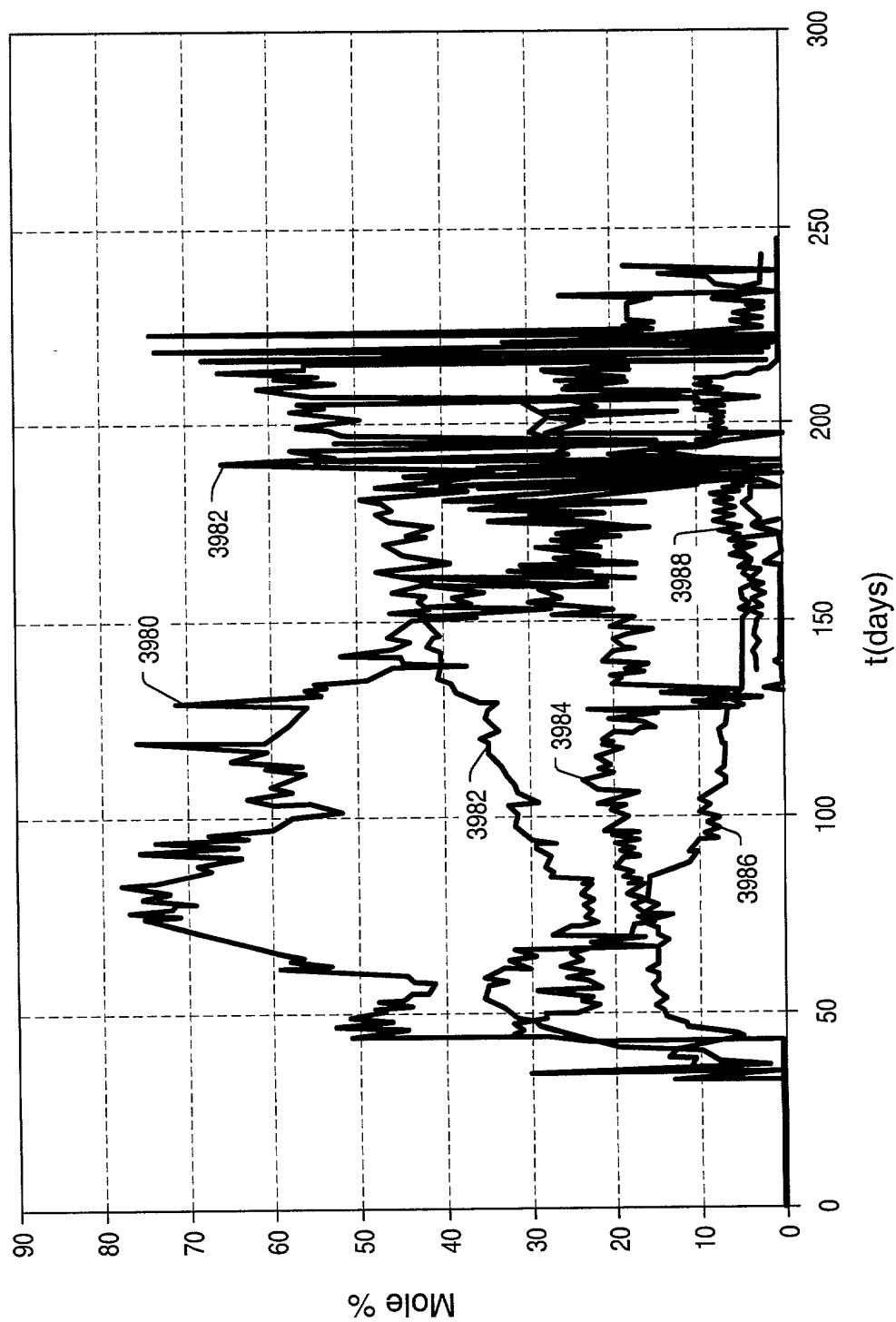


FIG. 157

FIG. 158

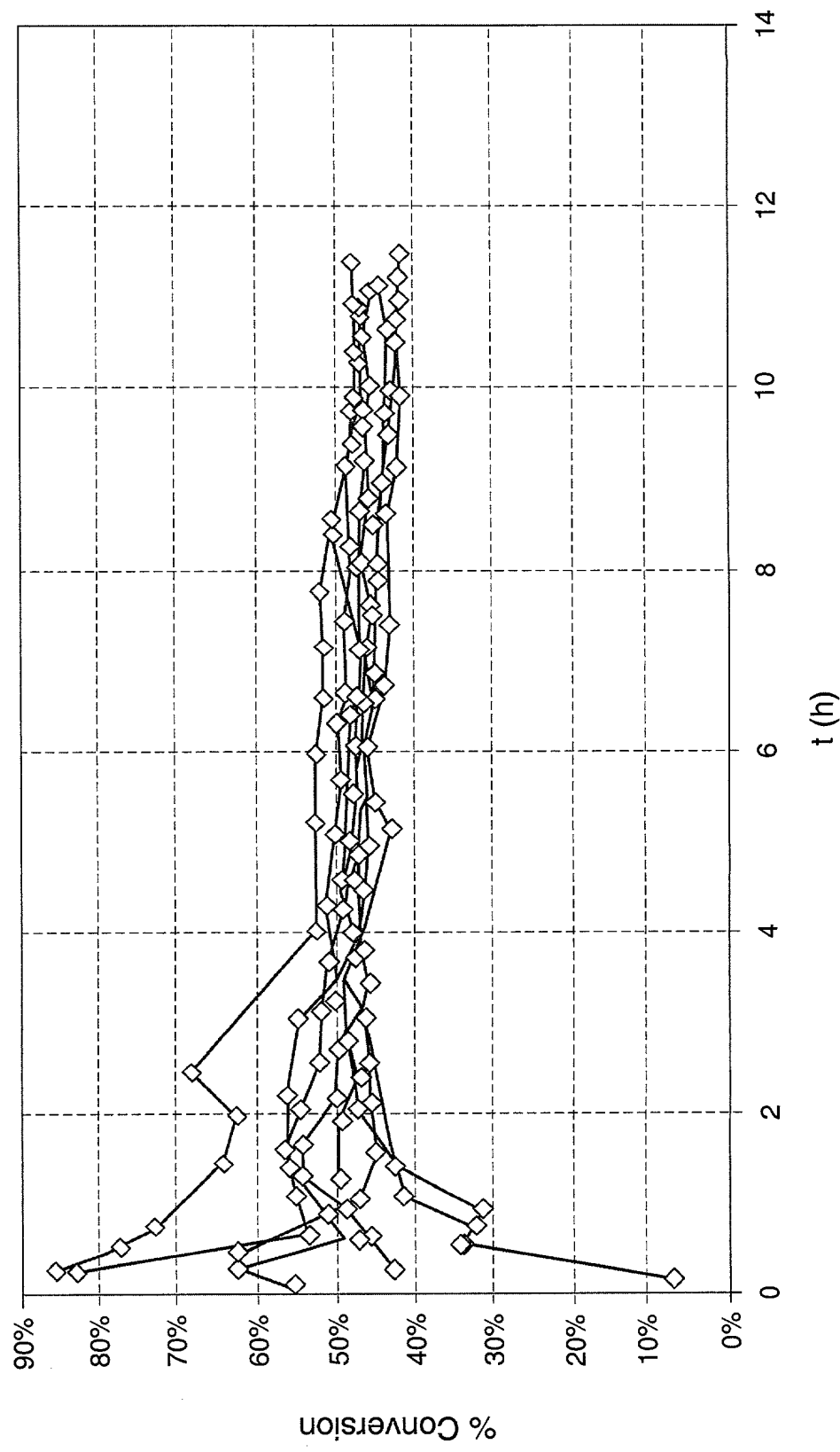


FIG. 158

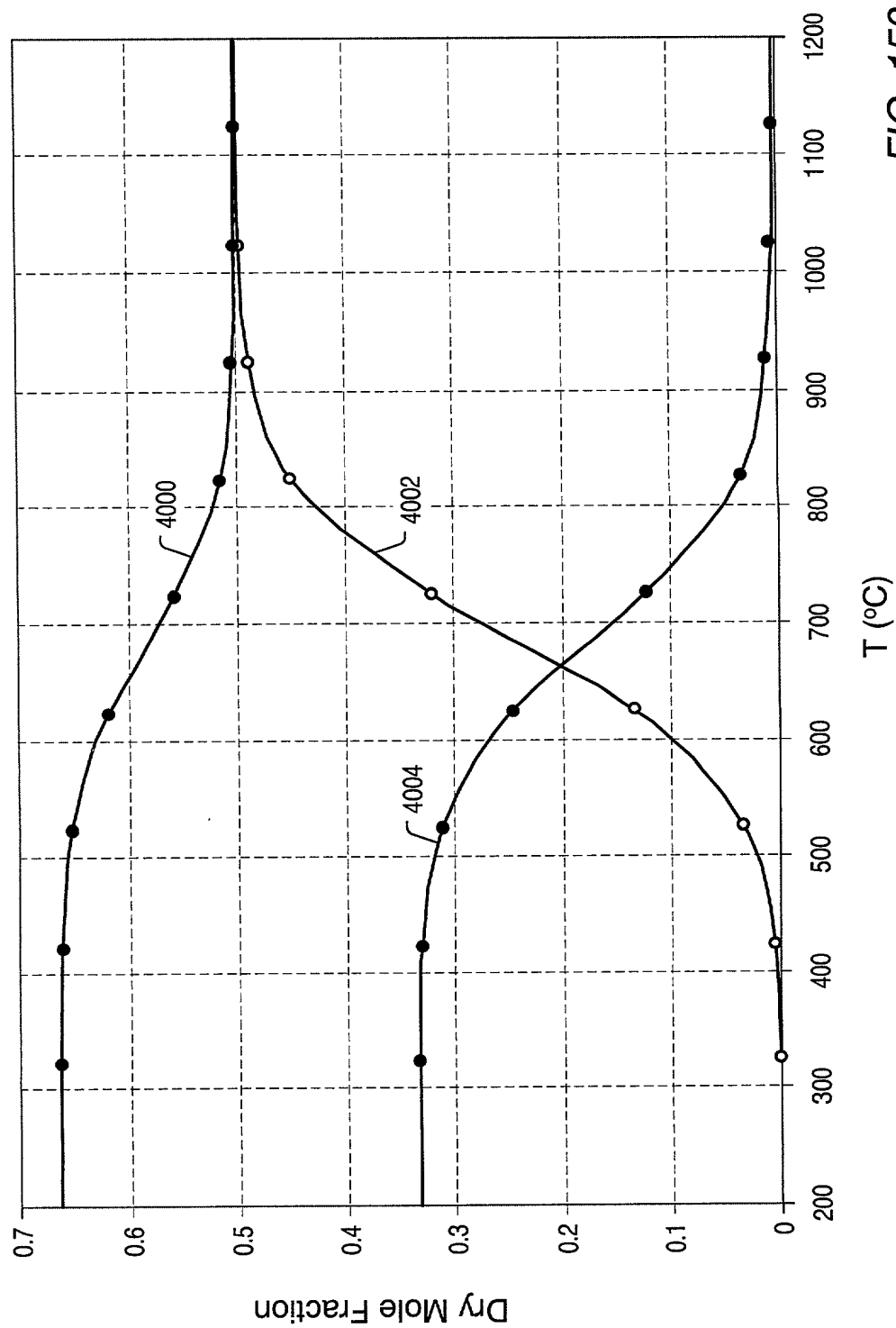


FIG. 159

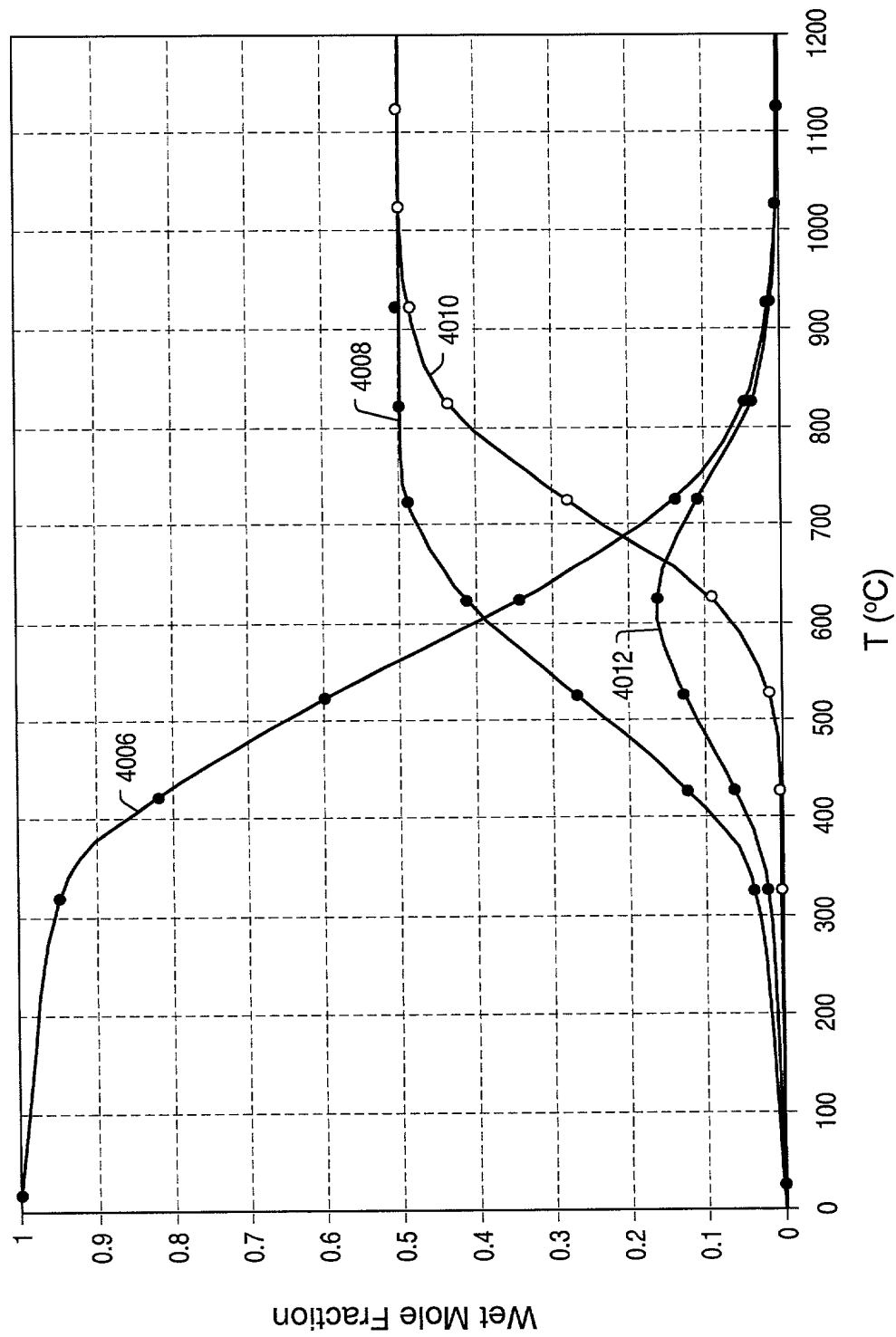
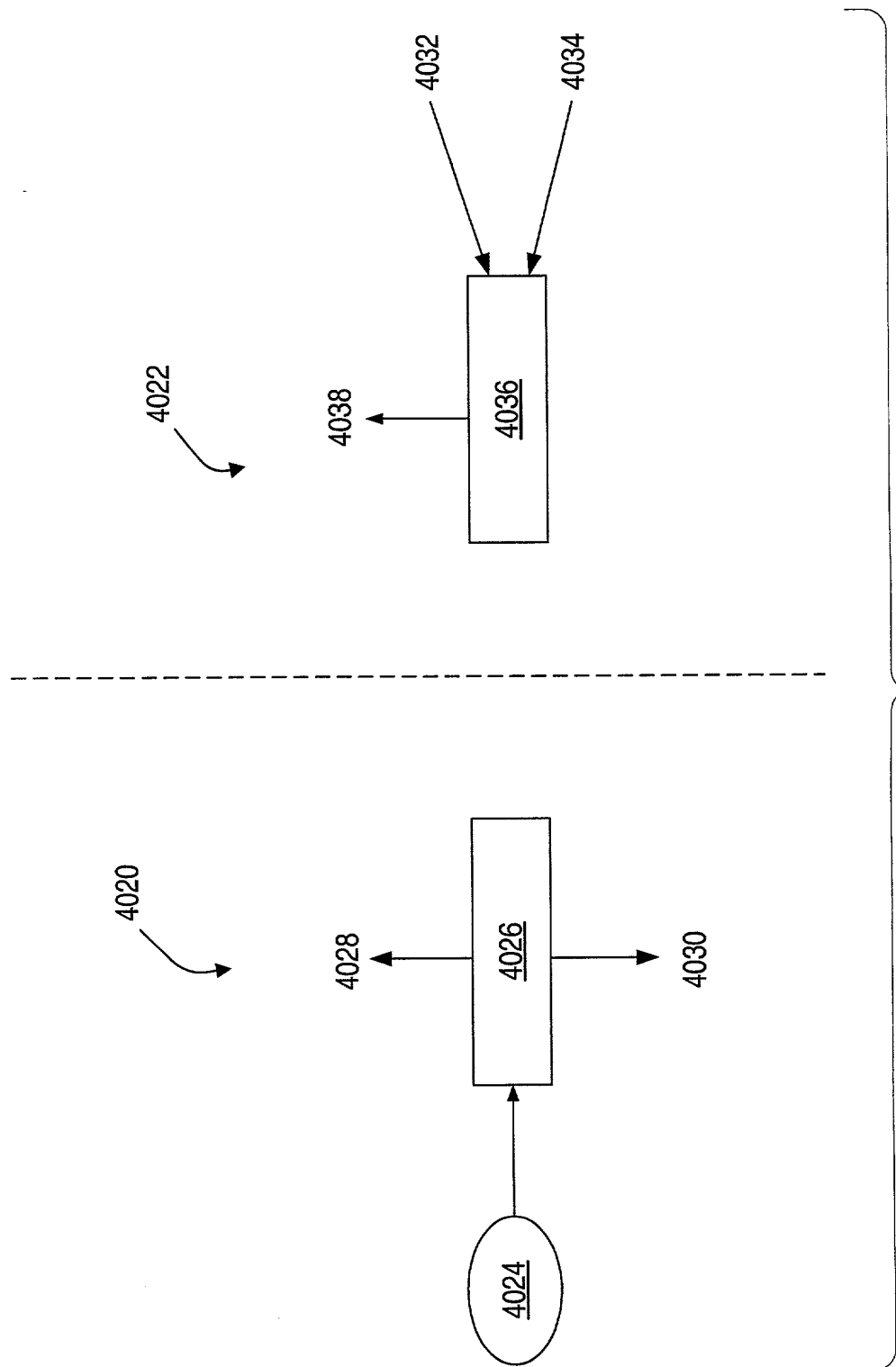


FIG. 160



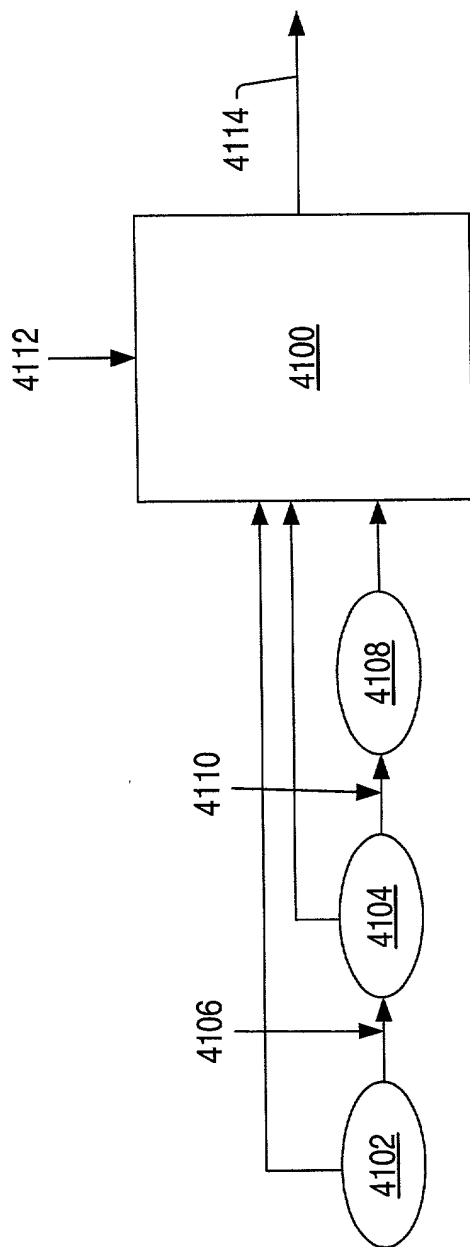


FIG. 162

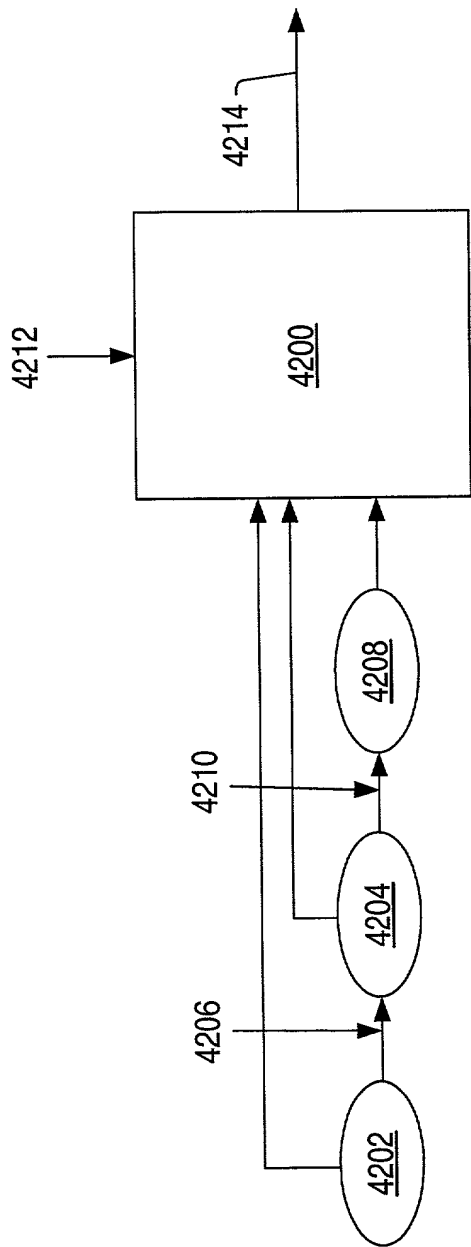


FIG. 163

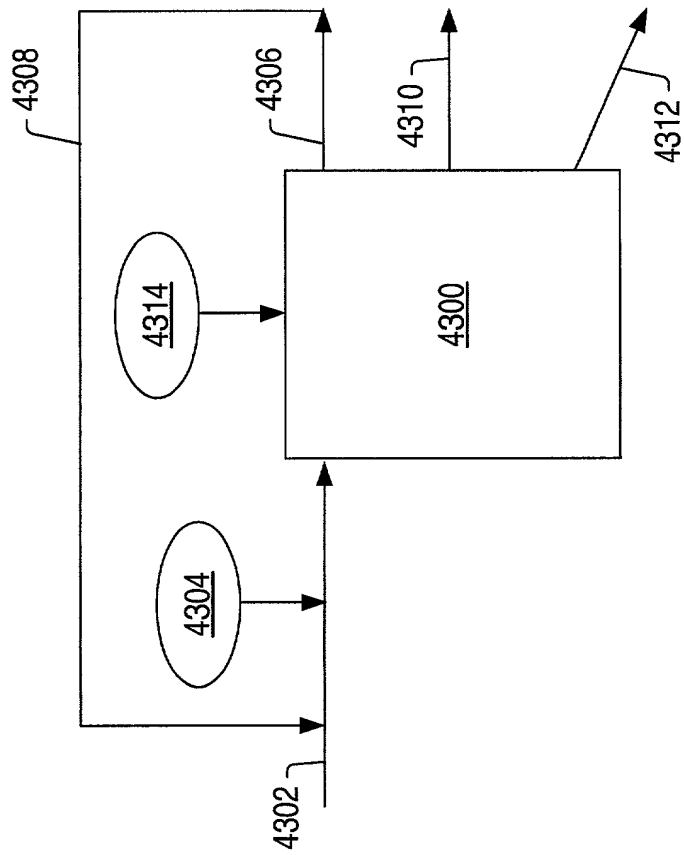


FIG. 164

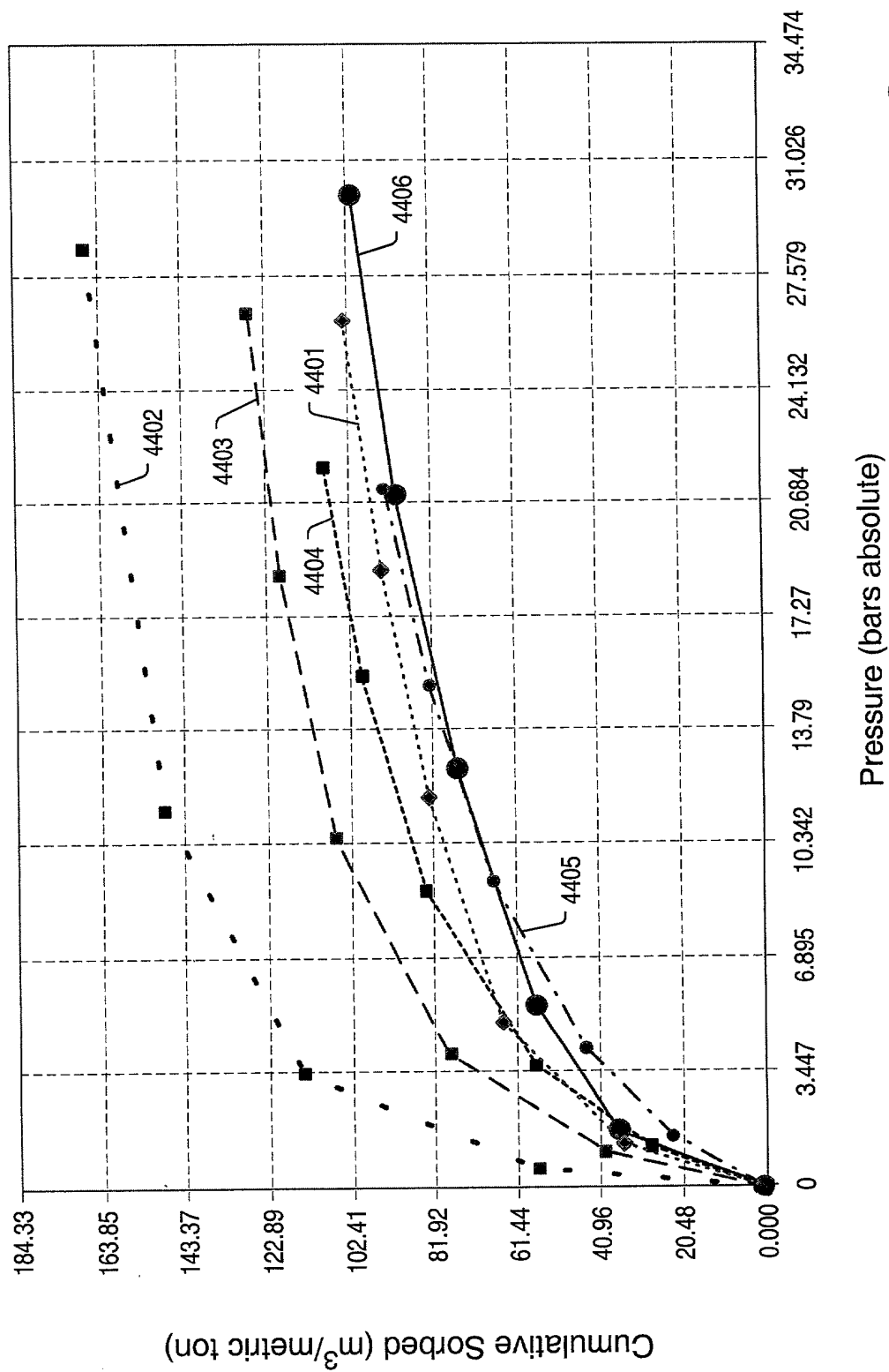


FIG. 165

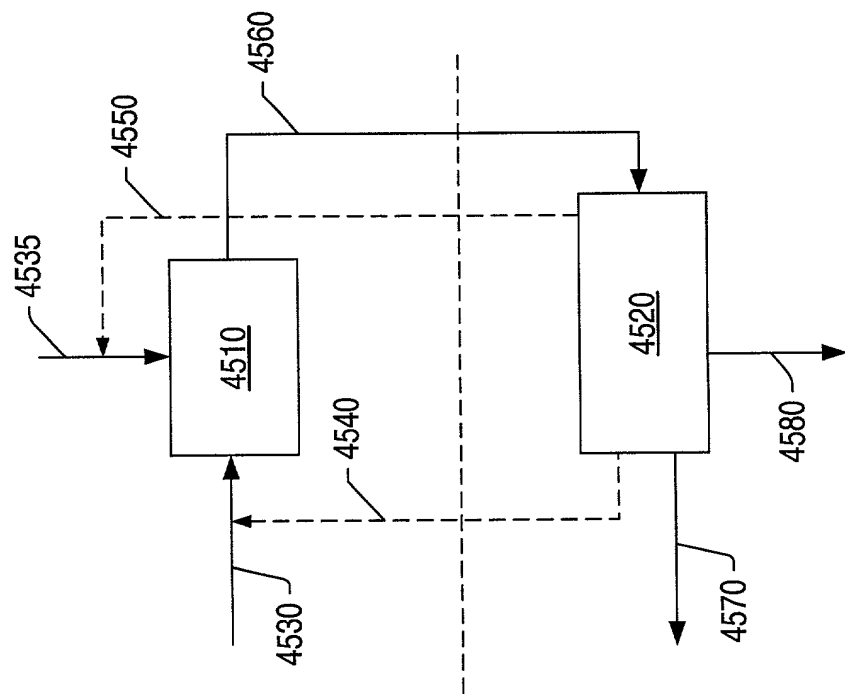


FIG. 166

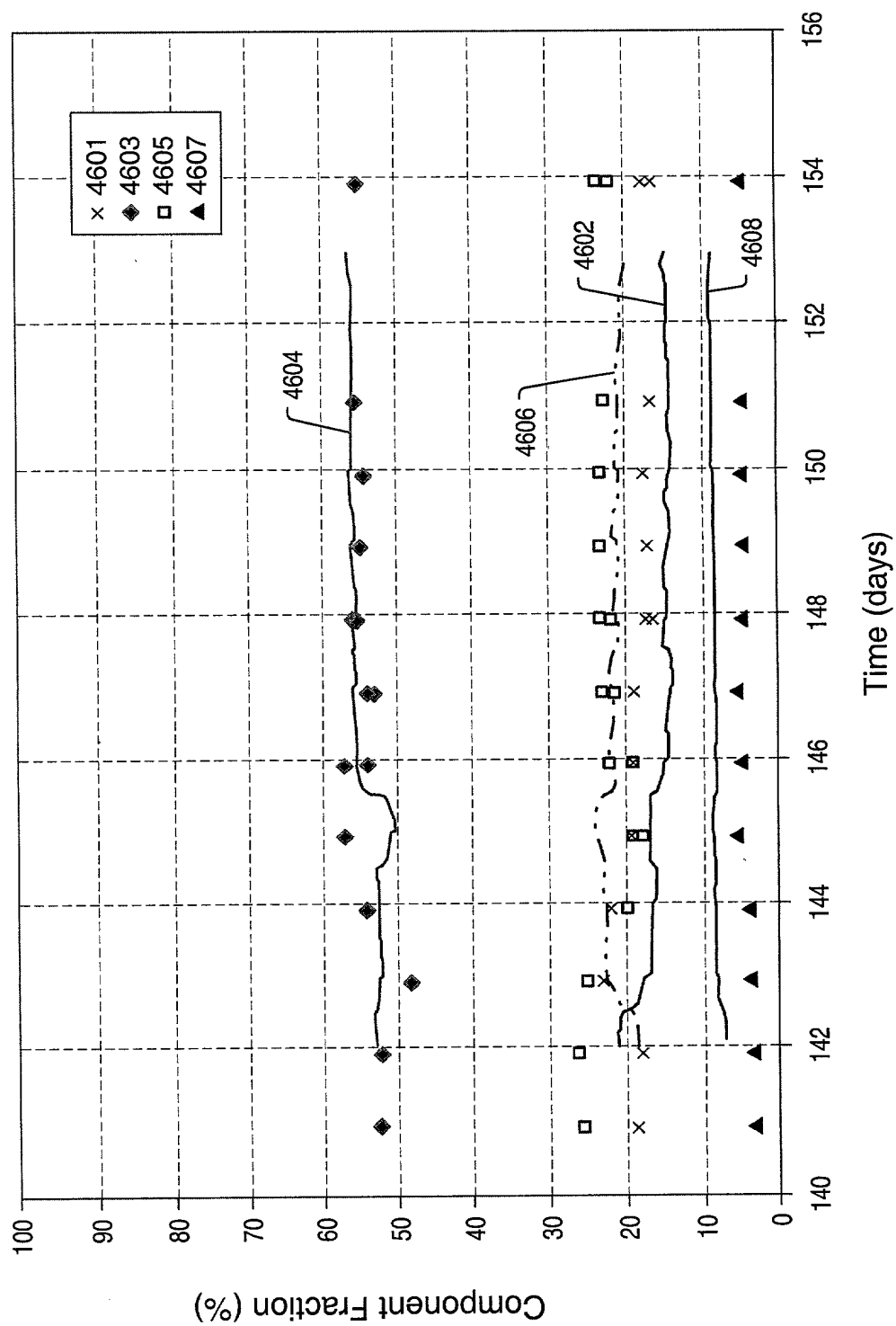


FIG. 167

FIG. 168

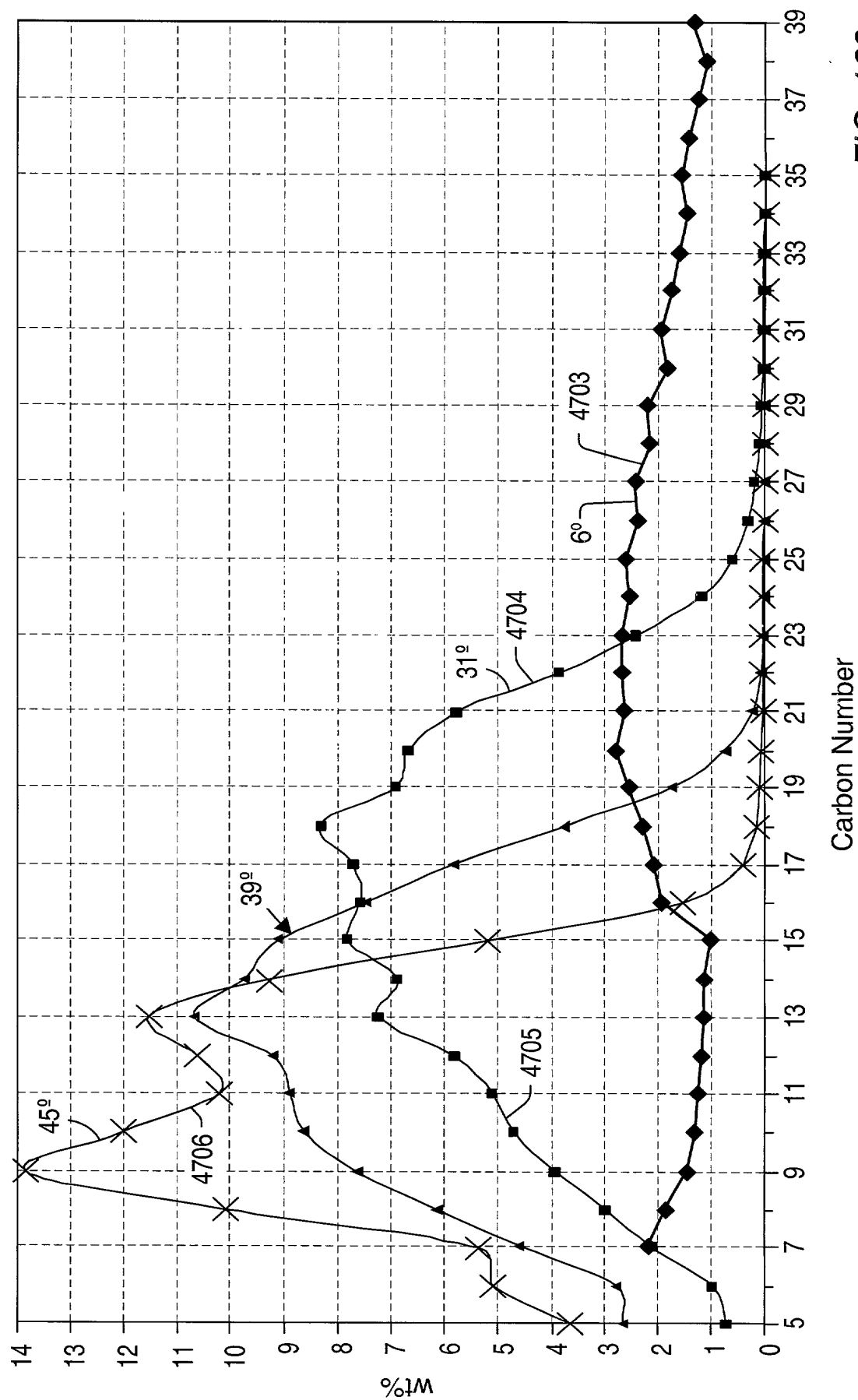


FIG. 168

FIG. 169 is a bar chart showing the weight percentage (Wt. %) of various components (4710, 4712, 4714, 4716, 4720, 4722, 4724, 4726, 4728) across four different temperatures (30.5°, 30.9°, 30.7°, 39.2°). The y-axis represents Wt. % from 0 to 100. The x-axis represents the temperature. The legend indicates the following patterns for each component:

- 4720: Diagonal lines (top-left to bottom-right)
- 4722: Cross-hatch pattern
- 4724: Diagonal lines (bottom-left to top-right)
- 4726: White/unfilled
- 4728: Horizontal lines

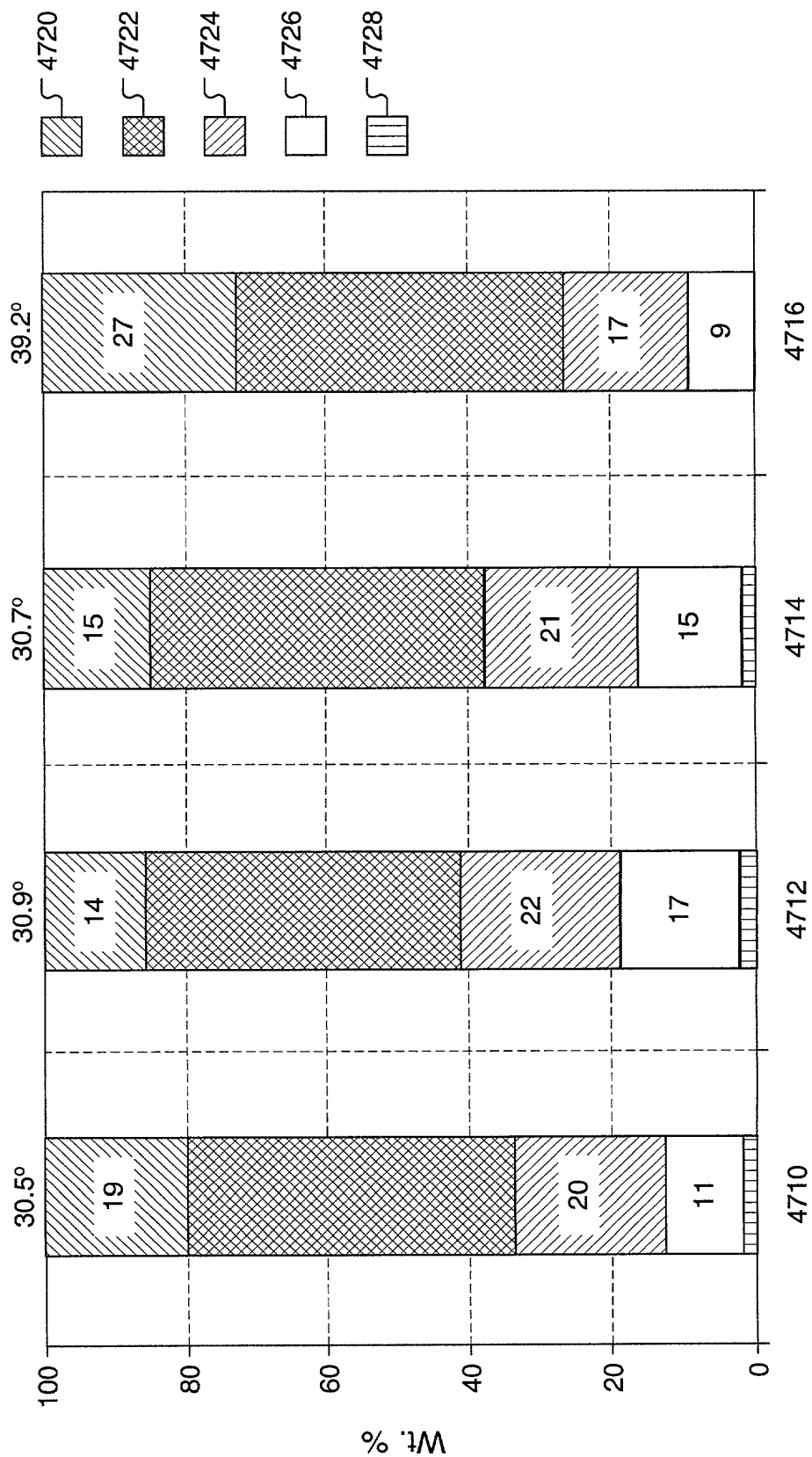


FIG. 169

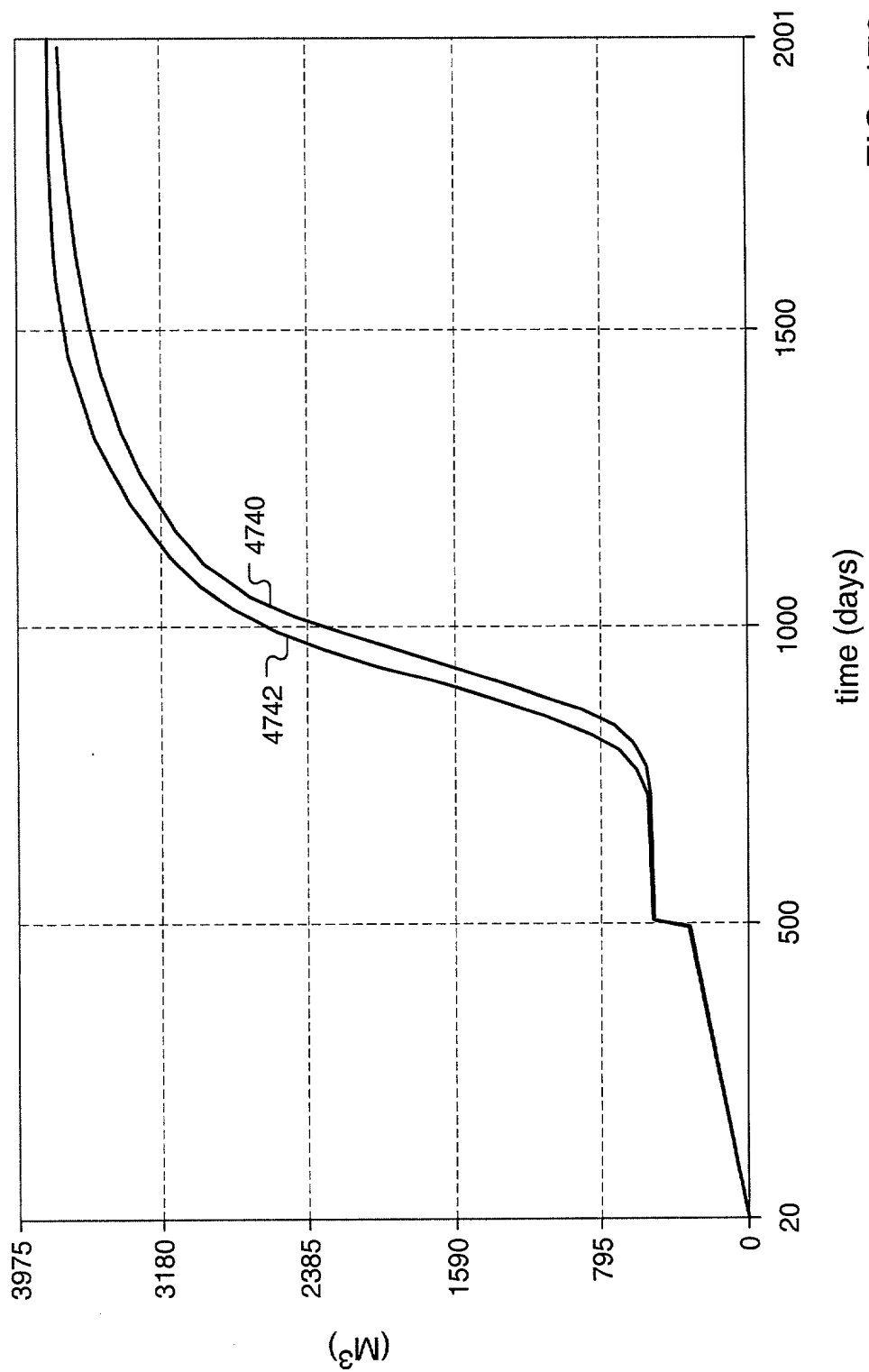


FIG. 170

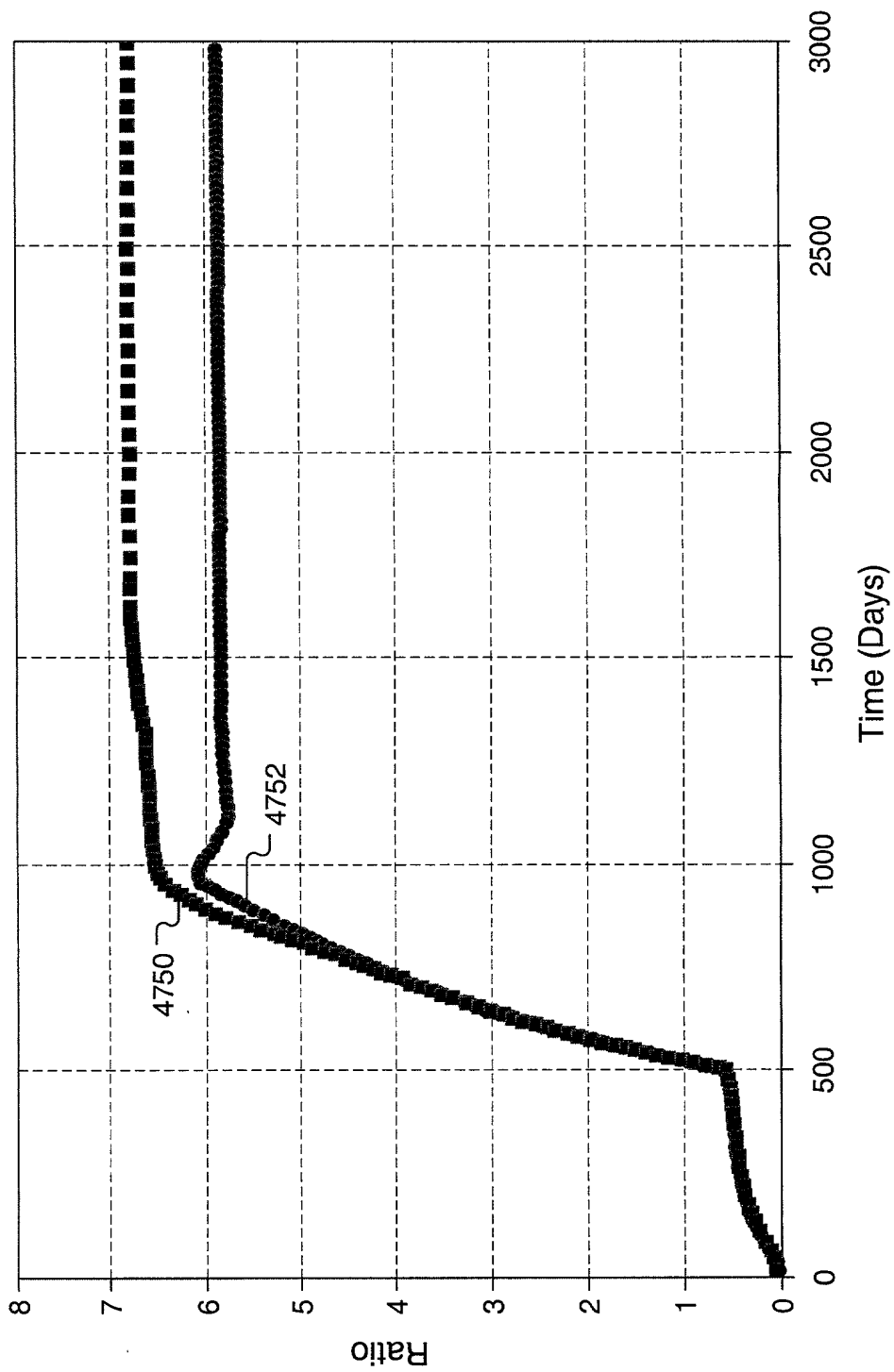


FIG. 171

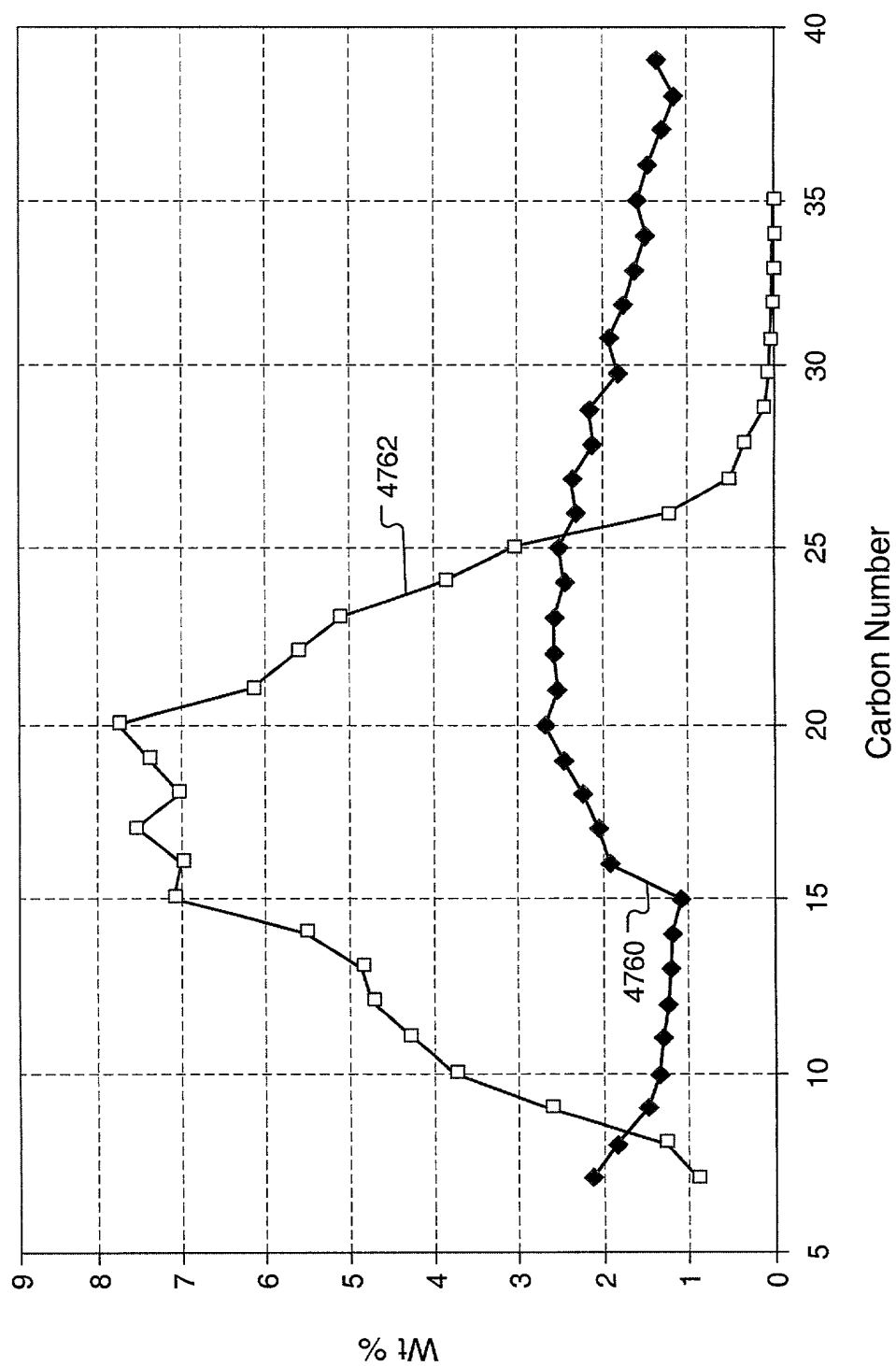


FIG. 172

FIG. 173

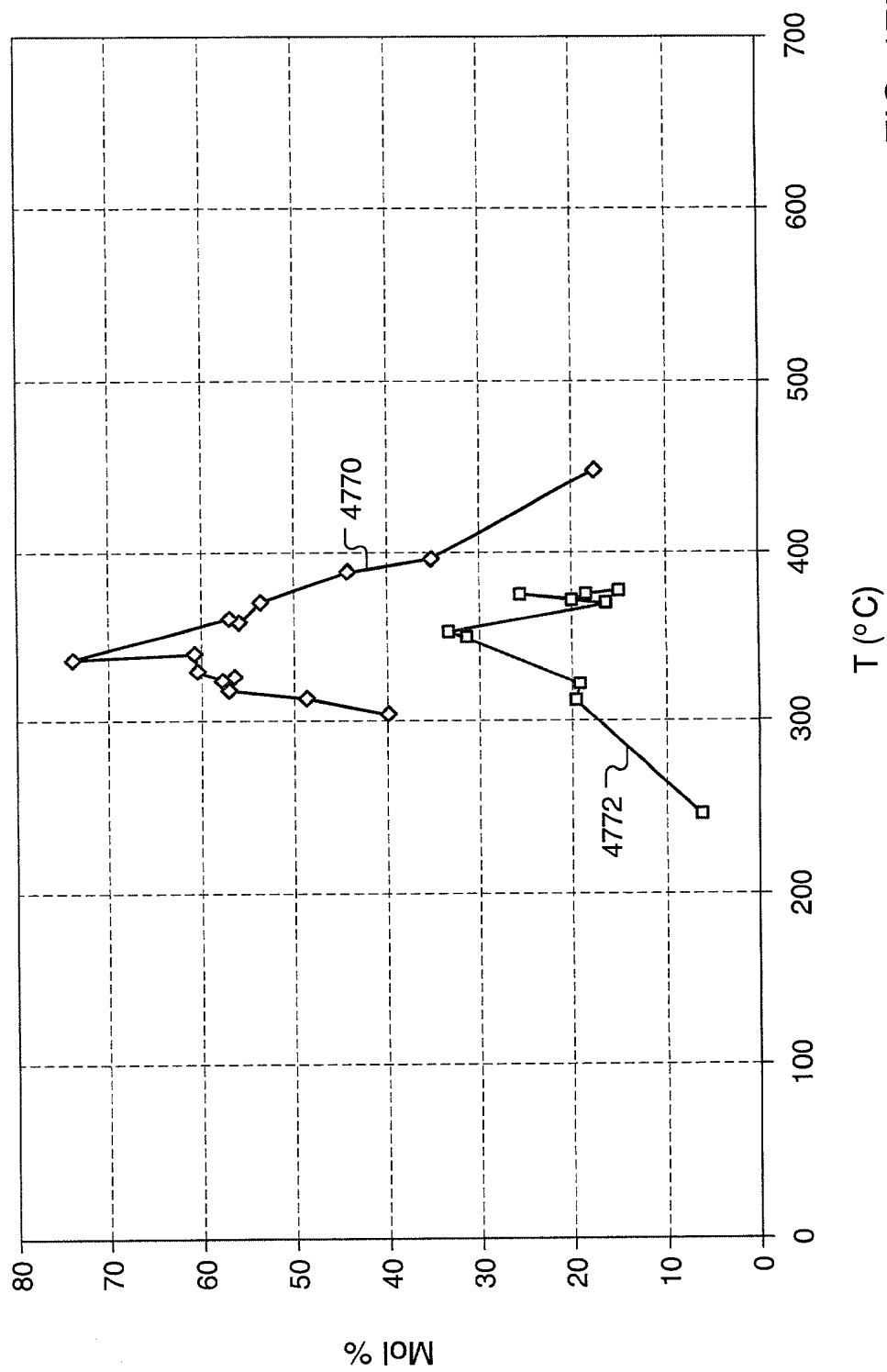


FIG. 173

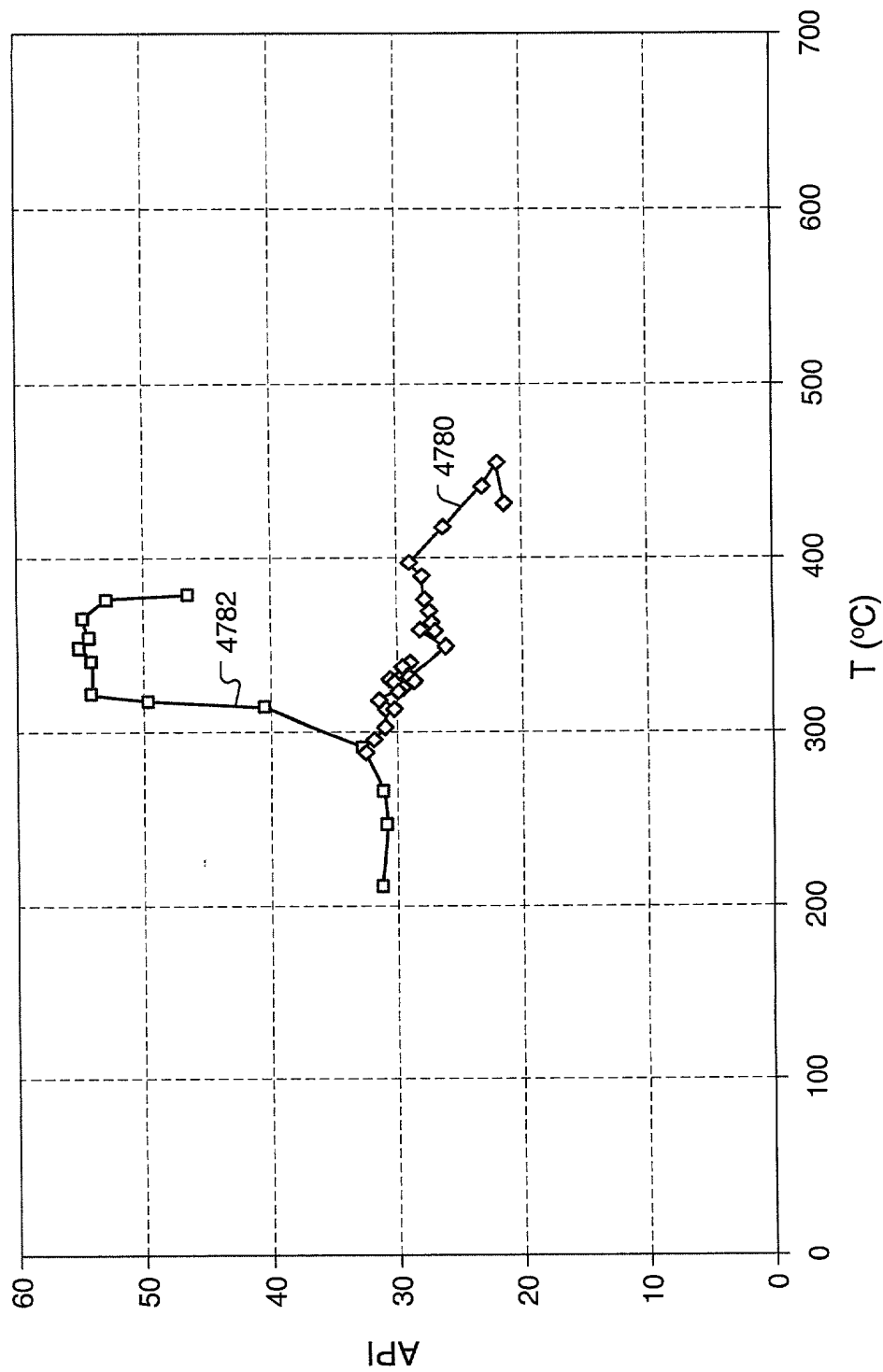


FIG. 174

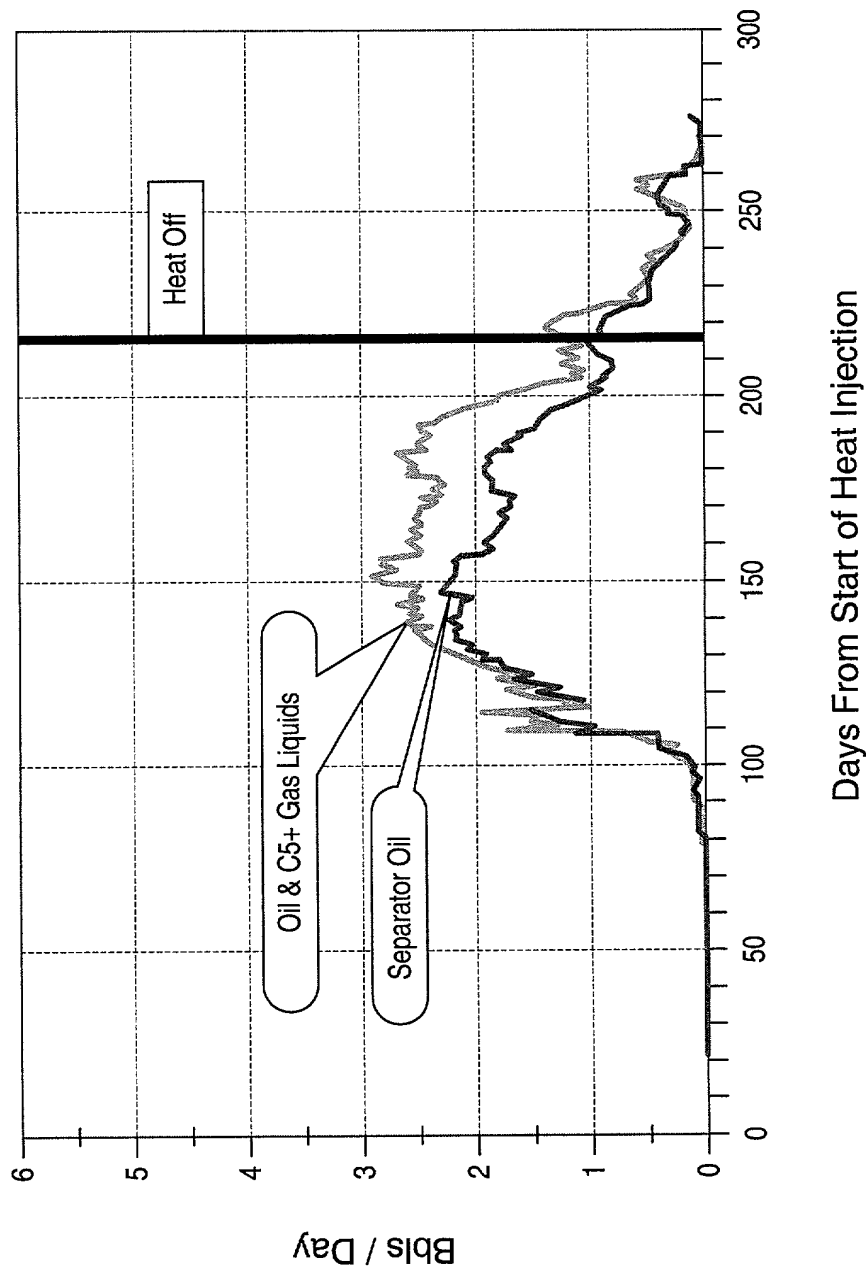


FIG. 175

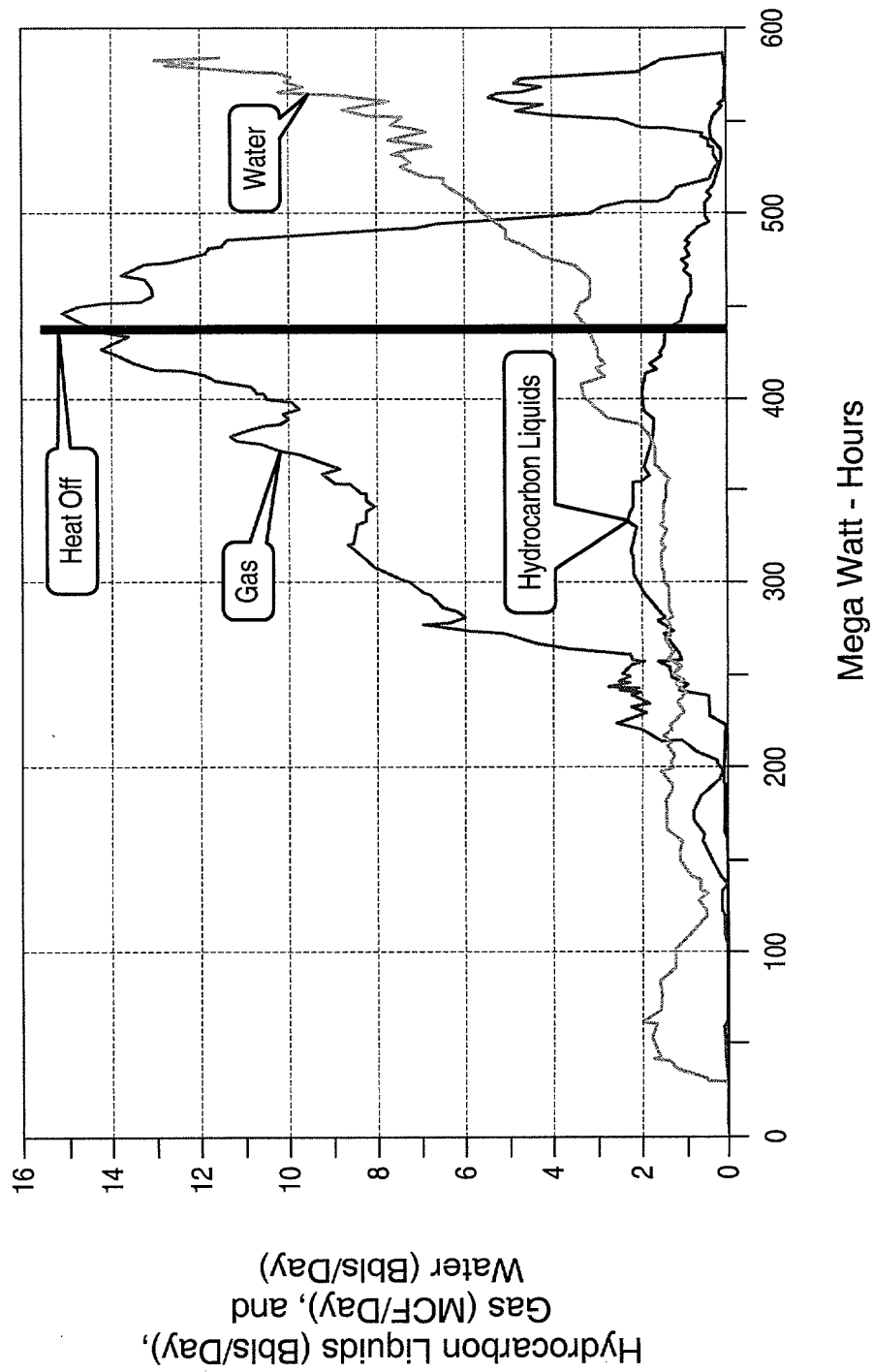


FIG. 176

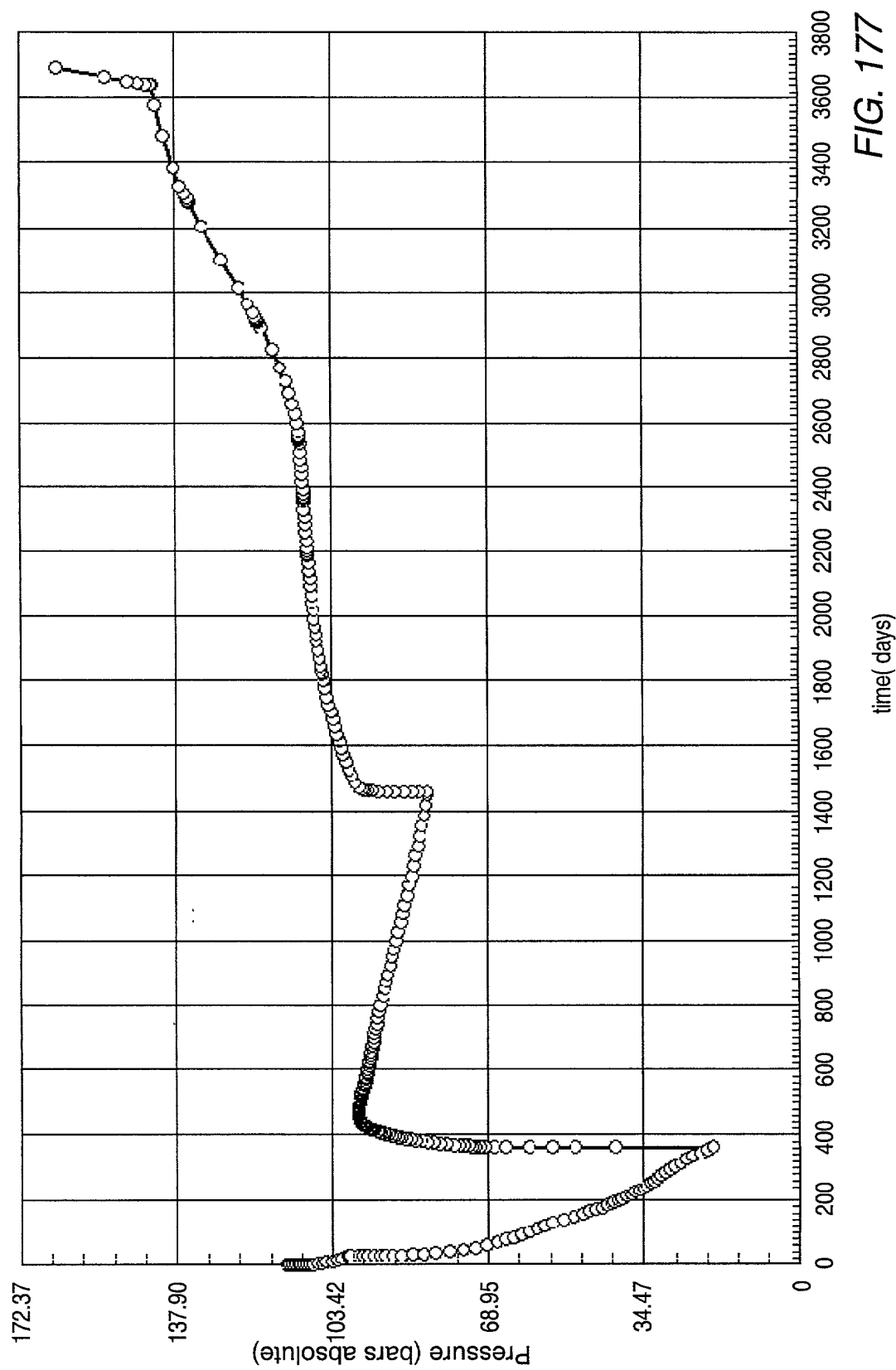


FIG. 177

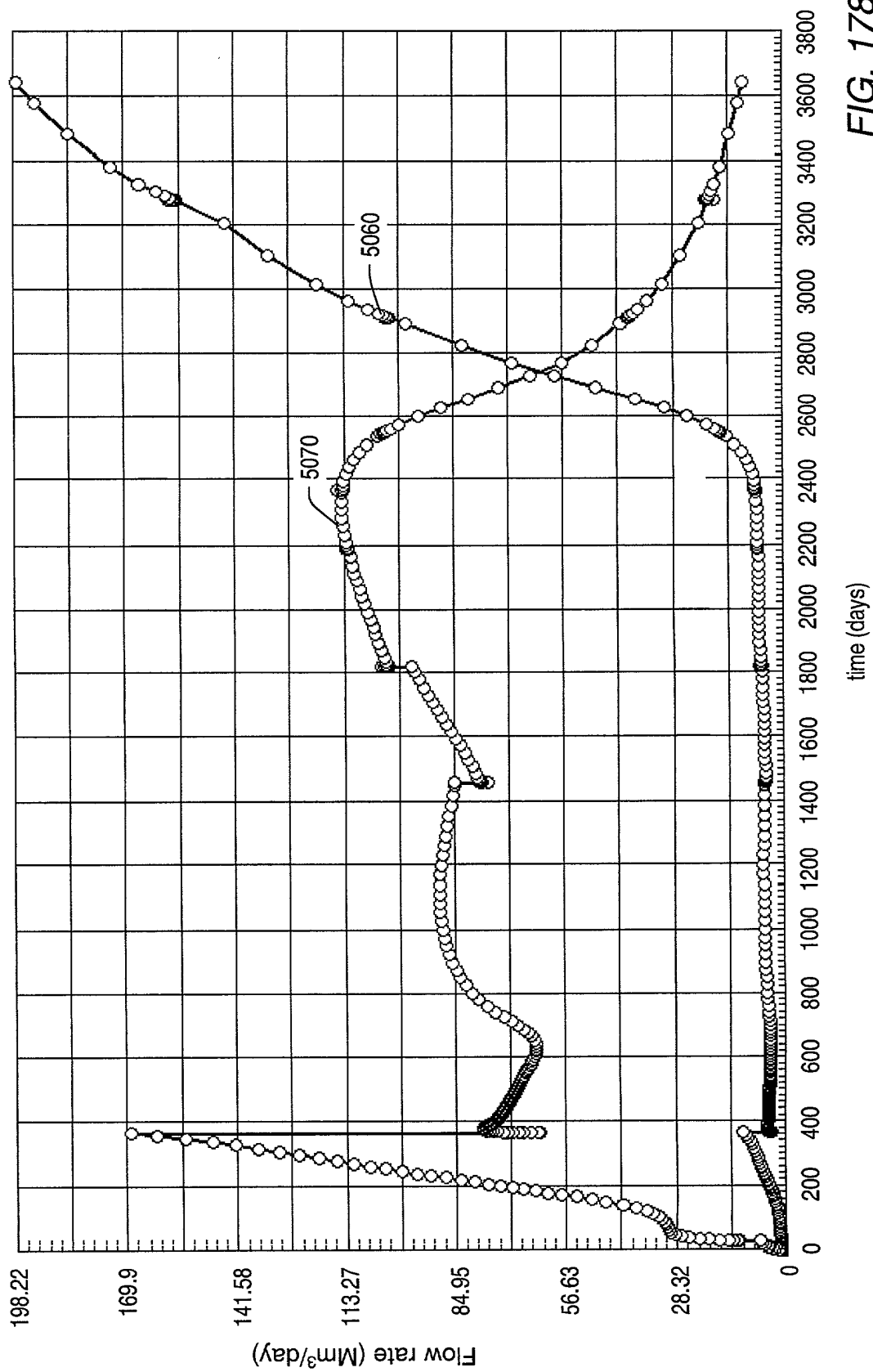


FIG. 178

FIG. 179 is a graph showing the relationship between the time (days) and the volume of water (Bm³) for the two cases shown in FIG. 178.

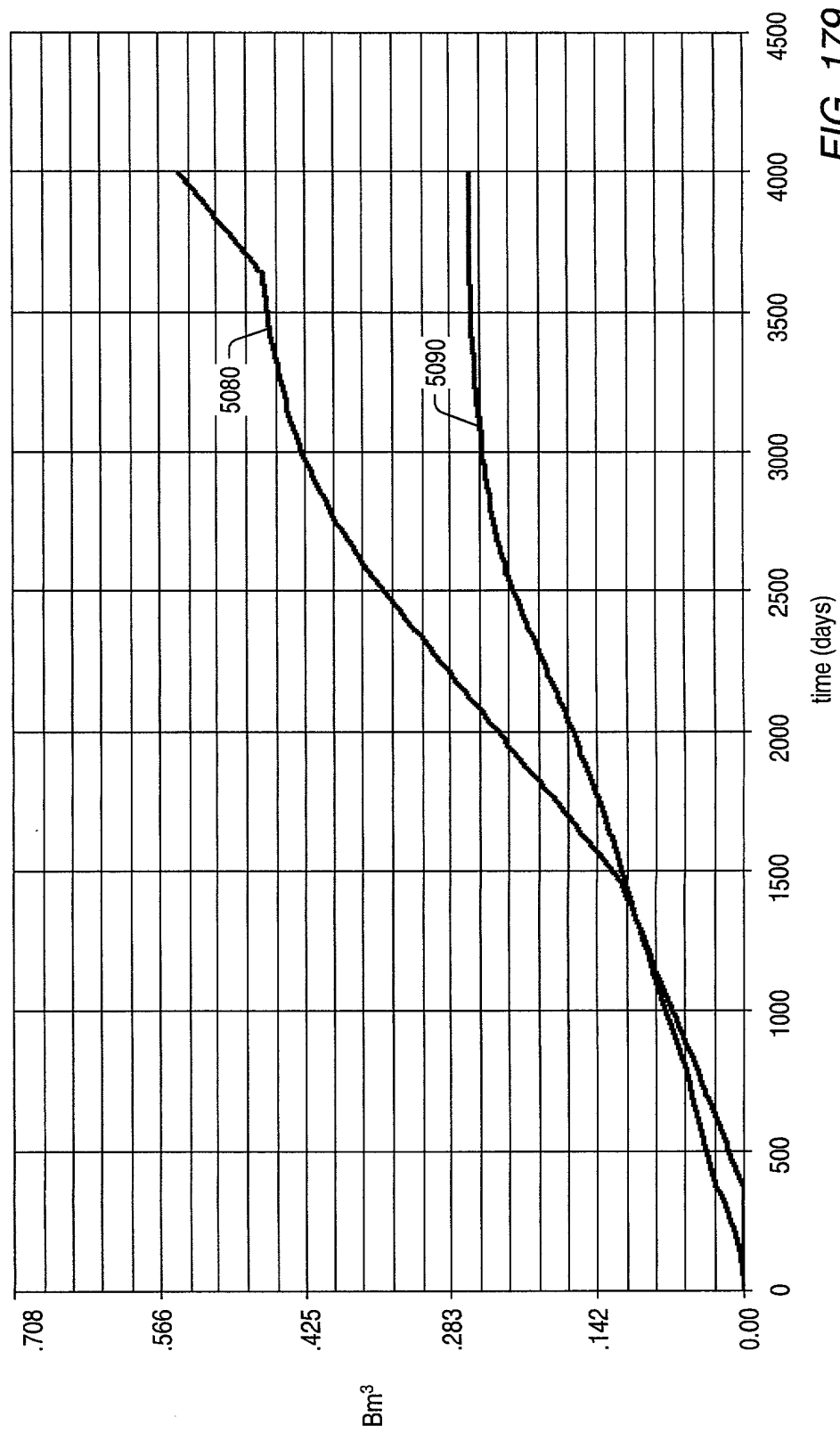


FIG. 179



FIG. 180

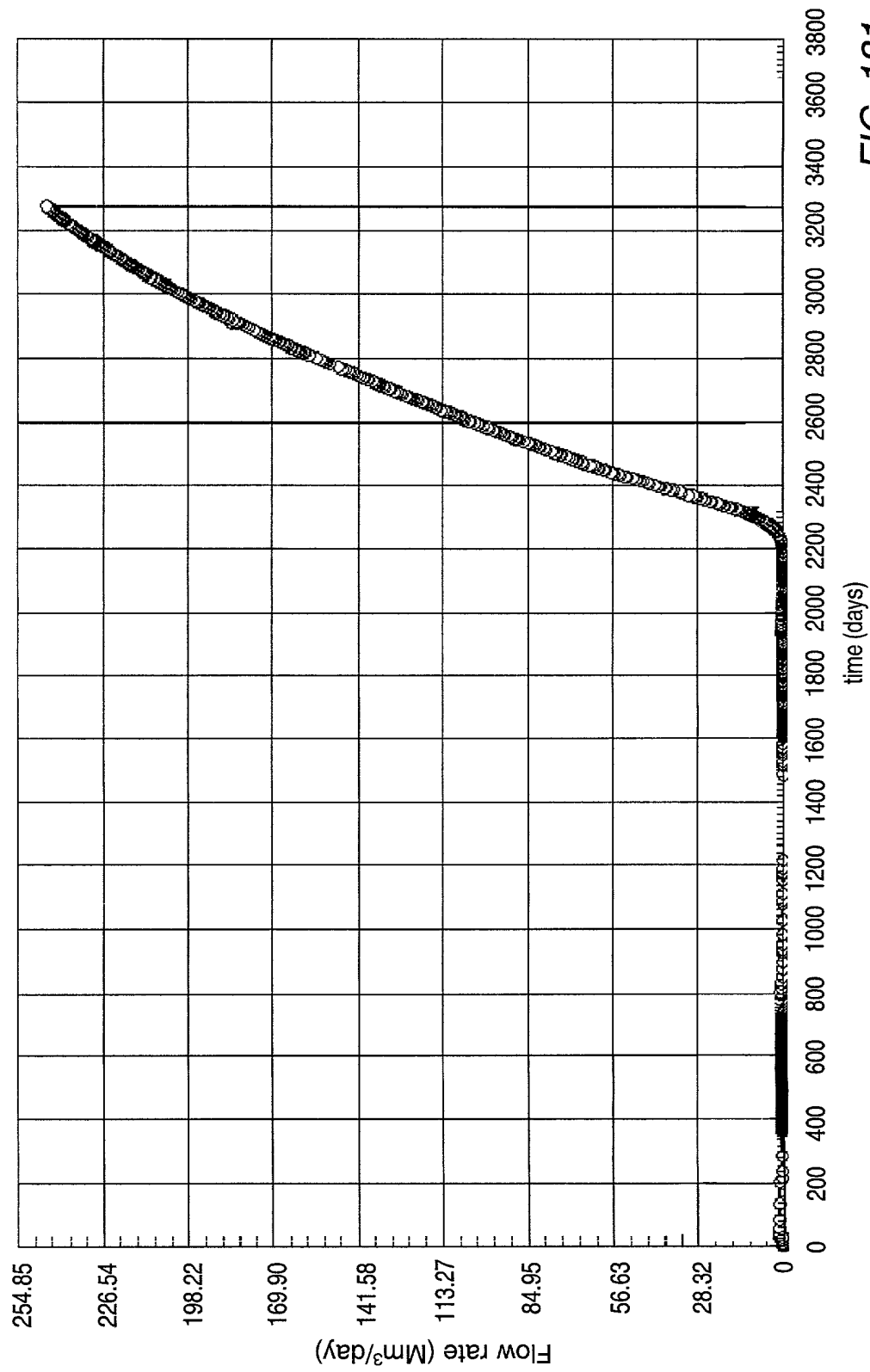


FIG. 181

FIG. 182

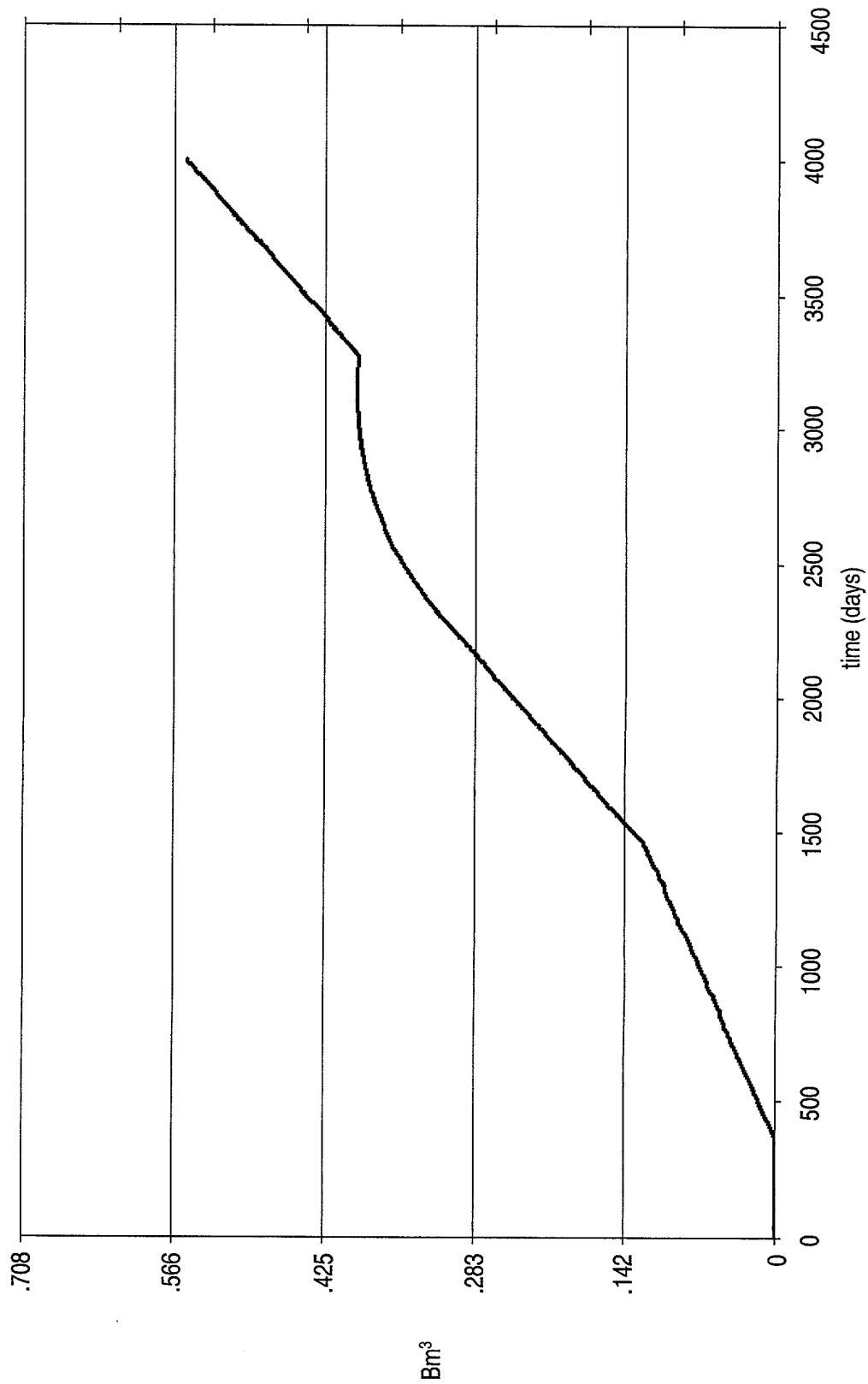


FIG. 182